ADDITIONAL
REMEDIAL INVESTIGATION ACTIVITIES

VOLUME II OF II

BASF Rensselaer
Rensselaer, New York

August 3, 2001

Prepared for:

BASF Corporation
3000 Continental Drive North
Mount Olive, New Jersey 07828

Prepared by:

ROUX ASSOCIATES, INC.
1377 Motor Parkway
Islandia, New York 11749

ROUX

TABLE OF CONTENTS

VOLUME II

APPENDICES

PLATES

APPENDIX A

Response to NYSDEC Comments on the
Remedial Investigation and Supplemental Investigation Report

RESPONSE TO NYSDEC COMMENTS ON THE REMEDIAL INVESTIGATION and SUPPLEMENTAL REMEDIAL INVESTIGATION REPORT

BASF Rensselaer
Rensselaer, New York

ORDER ON CONSENT INDEX # A4-0345-96-07

March 7, 2001

Prepared for:

BASF Corporation

3000 Continental Drive North
Mount Olive, New Jersey 07828

Prepared by:

ROUX ASSOCIATES, INC.
Environmental Consulting & Management
1377 Motor Parkway
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ENVIRONMENTAL CONSULTING & MANAGEMENT
ROUX ASSOCIATES INC

ROUX

1377 MOTOR PARKWAY
ISLANDIA, NEW YORK 11749 TEL: 631-232-2600 FAX: 631-232-9898

March 7, 2001

Mr. Dan Lightsey
Environmental Engineer
New York State Department of Environmental Conservation
1150 North Westcott Road
Schenectady, New York 12306-2014

Re: Response to New York State Department of Environmental Conservation Comments on the Report Titled "Remedial Investigation and Supplemental Remedial Investigation Report"
Order on Consent Index # A4-0345-96-07

Dear Mr. Lightsey:

BASF Corporation (BASF), and their environmental consultant, Roux Associates, Inc. (Roux Associates) have received and reviewed copies of the final New York State Department of Environmental Conservation Comments on the Report Titled "Remedial Investigation and Supplemental Remedial Investigation Report" (RI Report) [Roux Associates 2000]). Provided below are responses to the NYSDEC comments. The NYSDEC comments are provided verbatim in italics followed by Roux Associates' responses on behalf of BASF.

NYSDEC Comment

1. *Pg. 2, Section 1.1.1; Site Description: references to building 39 and building 40 are made in the text, but are not included on the site maps. A figure (Figure 4) should be added that is large enough to show all the numbered buildings (as seen on Figure 3), including building 39 and building 40.*

Response

Plates 1 and 2, showing sampling locations and buildings, were modified to include Building 40 and are included in Attachment A of this letter. Building 39 was already shown on these Plates.

NYSDEC Comment

2. *Pg. 13, Section 2.6; Groundwater Sampling. A table must be provided regarding the chemicals analyzed for. This must be done for all media sampled. Please provide the name of the laboratory performing the analyses.*

Response
Tables A-1 and A-2 have been provided in Attachment B of this letter. The tables summarize the chemicals analyzed for and the laboratories that performed the analyses.

NYSDEC Comment

3. *Pg. 39, Section 6.1.2; second paragraph. To be consistent with the conclusions, the text must be changed to indicate "the lagoons present a partial barrier to westward migration". The groundwater contours show what appears to be the entire aquifer under the plant discharging to the river.*

Response
The text for Section 6 has been revised as noted, and is included in Attachment C of this letter.

NYSDEC Comment

4. *Pg. 39, fourth paragraph. The final destination of "migration off-site to the west" must be determined.*

Response
This issue is currently being addressed in a Pre-Design Investigation being performed by Roux Associates on behalf of BASF in support of future remedial design activities. The field work for the Pre-Design Investigation commenced the week of February 20, 2001. A Pre-Design Investigation Work Plan was submitted to the NYSDEC on February 9, 2001. Part of the scope of work for the Pre-Design Investigation includes characterizing the fate and transport of dissolved constituents in groundwater that are migrating offsite to the west. This evaluation will be accomplished by installing temporary piezometers from which groundwater levels and water-quality samples will be obtained. The results of the Pre-Design Investigation will be presented in a report to the NYSDEC.

NYSDEC Comment

5. *Pg. 40, third paragraph. Groundwater migrating from beneath the landfill may intersect the sewer bedding at the perimeter(s) of the plant site. The source(s) of the sewer bed contamination (all sewer beds) must be determined. The final destination of the contaminated groundwater in the sewer bedding must be determined.*

Response
The scope of work for the Pre-Design Investigation also includes a sewer bedding investigation where sewer bedding may be serving as relatively transmissive conduits for migration of dissolved constituents in groundwater. This issue will be investigated by installing temporary piezometers from which groundwater levels and water-quality samples will be obtained. The results will be presented in the Pre-Design Investigation report.

NYSDEC Comment

6. *Pg. 41, second paragraph. The source(s) of the arsenic contamination must be determined. These sources must be delineated so that proper remediation of the source(s) can be evaluated in the Feasibility Study (FS).*

Response
The scope of work for the Pre-Design Investigation includes an arsenic-in-groundwater source area investigation. This will be accomplished by sampling of soil in the areas where relatively high concentrations of dissolved arsenic were detected in groundwater (i.e., beneath the lagoon area and the northwest portion of the Main Plant area). The results will be presented in the Pre-Design Investigation report. The Feasibility Study will address the potential sources of dissolved arsenic in groundwater.

NYSDEC Comment

7. *Pg. 42, Section 7.0; Hydro-geology. In bullet #6, a reference to the information used in the determination that the bottoms of the lagoons lie approximately 1 foot (or less) above the silty clay lower boundary must be provided. Plate 3 indicates a different view, and it should be remembered that the lagoons do not extend across the entire western boundary.*

Response
Attachment D of this letter contains soil boring logs completed in 1981 by Empire Soils Investigation, Inc. obtained from borings completed in the Lagoon area and two design drawings provided by BASF showing the Lagoon construction and elevations of the lagoon bottoms. A review of the soil boring logs indicates that the depth to the lacustrine silt and clay beneath the Lagoon area ranges from 12 to 16 feet below land surface. The design cross-section indicates a grade elevation adjacent to the lagoons of 18 feet relative to mean sea level (ft rmsl) and an elevation of the bottom of the lagoon clay liners of 2 ft rmsl for a depth below land surface of approximately 16 feet. This indicates that the bottom of the lagoon clay liners is at or below the lacustrine silt/clay interface. Section 4.3.2 of the report has been revised to include this information and is provided in Attachment D of this letter.

The lagoons extend 850 feet from north to south adjacent to the western border of the Main Plant. The western border of the Main Plant is 1,040 feet long. Therefore, the lagoons present a barrier to westward migration of groundwater over approximately 82 percent of the western border of the Main Plant.

NYSDEC Comment

8. *Pg. 45, Section 8.0; Integrated Site Remedy and Re-development. The text must be changed to clearly state that VOCs, SVOCs, and Metals will all be properly addressed by the proposed groundwater treatment system.*

Response
The requested change has been addressed in the revised Section 8.0 provided in Attachment E.

NYSDEC Comment

9. *Pg. 46, Section 8.1; Proposed Additional Investigation. The extent of contaminated soils in and around the sewers must be determined (not just whether or not they are a conduit). How these soils add to the groundwater contamination, and the final destination of the contaminated groundwater must be determined.*

Response
As noted in the response to item #5 above, the scope of work for the Pre-Design Investigation includes sampling of soil adjacent to the perforated pipe that runs east-west beneath the north-western portion of the border between BASF and Organichem properties.

NYSDEC Comment

10. *Plates 6 and 8: there is a discrepancy between the plates. Plate 6 indicates that there is significant volatile organic contamination near new building 81, while this area is not represented on Plate 8.*

Response
Plate 8 has been revised to reflect these data near Building 81. Revised Plate 8 is provided in Attachment F of this letter.

NYSDEC Comment

- *Several references are made to a 40 foot silt/clay layer beneath the shallow aquifer, but the report provides no confirmation to substantiate this. Boring logs from borings or monitoring wells that have been installed at depths greater than nine feet need to be referenced.*

Response
Attachment G of this letter contains an east-west cross-section across the southern portion of the Main Plant area from the report titled "Hydrogeologic Investigation of Industrial Waste Disposal Area, BASF Wyandotte Corporation, Rensselaer, New York" (Dames and Moore 1979). The figure was compiled from borings completed by Albany Boring Tests in 1929. Cross-section F-F' indicates that the thickness of the silt/clay layer ranges from approximately 10 feet beneath the former drum storage area of the Main Plant area, to over 50 feet beneath the Lagoon area.

NYSDEC Comment

- *Data provided by Malcolm Pirnie (from 1997) showed vinyl chloride at 282,000 micrograms per liter, at piezometer 23 (near Riverside Avenue). Concentrations this high must be addressed in the FS.*

Response

Piezometer LG-PZ-23 no longer exists. Groundwater was sampled and analyzed from 44 locations throughout the Main Plant and Lagoon areas during performance of the RI and Supplemental RI. Vinyl chloride was only detected at eight locations at concentrations above New York State Ambient Water Quality Standards (NYS AWQS). The maximum concentration detected was 153 micrograms per liter (µg/L) in MP-MW-106. Vinyl chloride was not detected above NYS AWQS from locations hydraulically downgradient of the former location of LG-PZ-23. Moreover, the soil gas survey modules installed in the area (6249, 6242, 6241, 6227 and 6241) failed to detect vinyl chloride. Since vinyl chloride is a gas at standard temperature and pressure, the soil gas survey modules should have detected it if it were present. We therefore consider the historic detection of vinyl chloride in LG-PZ-23 to be an anomaly, and not confirmed by more recent sampling.

NYSDEC Comment

- *PCE and TCE detected in the soil gas survey were not detected in the soil borings. Is there a rational explanation for this?*

Response

There are several potential explanations for detections of compounds in soil gas survey samples, but not in soil or groundwater samples from the same location:

- The maximum detection of tetrachloroethene (PCE) in the Gore-Sorber soil gas survey modules was approximately 4 micrograms. At such a low detection, the probability of detection in the soil or groundwater matrix is correspondingly low;
- Several compounds, including PCE, may preferentially exist in the gas state, but exist below detection limits in soil or groundwater; and
- The trichloroethene (TCE) detection was in soil gas immediately adjacent to Organichem property to the north. There may be an offsite source of TCE, unrelated to the BASF site, that is yielding vapors that migrated to the vicinity of the Gore-Sorber modules, without there being an onsite source of TCE.

NYSDEC Comment

- *What is the construction of the lagoons. Have they ever been evaluated for leakage.*

Response

1974 GAF drawings of the lagoons area provided in Attachment D of this letter. BASF cannot verify the accuracy of the drawings since they are not stamped "as-built". To the best of BASF's knowledge, no formal leak tests were performed in the lagoons.

Monitoring wells around the lagoons have been sampled on a regular basis and the results reported to the NYSDEC.

NYSDEC Comment

- *What are the tidal effects of the Hudson River upon the site. References to the documents used in such a determination must be provided.*

Response

The tidal range effect on groundwater levels adjacent to the Hudson River was measured by Malcolm Pirnie, Inc. in 1994 during the baseline assessment of the Lagoon area. The data are presented in the report titled "BASF/Sterling Organics Wastewater Lagoons Baseline Assessment, Rensselaer, New York" (Malcolm Pirnie 1994). The measured tidal range in the Hudson River adjacent to the Lagoon area was approximately five feet. The measured range in groundwater elevation beneath the Lagoon area was approximately one foot. Malcolm Pirnie estimated that the tidal influence on groundwater extended approximately 200 feet inland (east) from the Hudson River. This suggests that the tidal influence on groundwater levels extends only beneath the western portion of the Lagoon area and does not extend to beneath the Main Plant area.

NYSDEC Comment

Additional investigation must be conducted to determine the following information:

- *A second round of groundwater sampling must be conducted to delineate the presence of hexavalent chrome in the groundwater and to verify all earlier results.*

Response

Total chromium was detected in only two filtered groundwater samples at concentrations above NYS AWQS. Note that due to the presence of high concentrations of dissolved iron in groundwater, and the reducing conditions that exist in groundwater beneath the Main Plant, it is unlikely that significant chromium exists in the hexavalent state. It is more likely that chromium exists in the less mobile trivalent state. The assumption that most of the chromium is trivalent is consistent with the observation that chromium was detected at relatively high concentrations in 18 unfiltered, turbid groundwater samples, but in only two filtered samples. Trivalent chromium tends to partition to solid surfaces, such as suspended solids in a turbid sample or the aquifer matrix.

To confirm the above assumptions regarding the likelihood that chromium exists primarily in the trivalent state in groundwater, a minimum of ten percent of the filtered groundwater samples collected during the Pre-Design Investigation will be analyzed for hexavalent chromium.

NYSDEC Comment

- *Piezometer 23 must be included in the above groundwater sampling event, and vinyl chloride analyzed for, to confirm or deny the presence of vinyl chloride from a previous study.*

Response
As noted above, piezometer LG-PZ-23 no longer exists. We believe that the data represents an anomaly and is not supported by more recent sampling. See response above regarding vinyl chloride.

NYSDEC Comment

- *A second round of soil samples must be taken where chrome has been detected, to determine the presence of hexavalent chrome in soils.*

Response
As discussed above, BASF believes that it is unlikely that significant hexavalent chromium exists due to the reducing conditions that prevail in the aquifer, the high concentrations of dissolved iron, and the relative lack of significant concentrations of dissolved chromium in filtered groundwater samples. To confirm this, 10 percent of soil samples obtained during the Pre-Design Investigation from the former drum storage area will be analyzed for hexavalent chromium.

NYSDEC Comment

- *Additional soil investigation at MP-MW-1, MP-MW-2, AND MP-MW-3 must be conducted to define a source of the groundwater contamination at this location.*

Response
Additional soil samples will be obtained from the area adjacent to the above-ground oil storage tank during the Pre-Design Investigation and analyzed for VOCs, SVOCs and metals.

NYSDEC Comment

- *Additional groundwater investigation is needed at the lagoons to determine the path of groundwater around and under the lagoons. The final destination of this groundwater must be determined.*

Response
The Lagoon area currently contains 25 water level monitoring locations. Groundwater levels have been mapped four times during both the Lagoon baseline Assessment and during the RI and Supplemental RI. A review of the water-level map provided in the RI Report indicates that a small percentage of groundwater is migrating beneath the lagoons, and most of the groundwater is migrating either between, or around the lagoons to the

north and south. This will be further evaluated during the Pre-Design Investigation with the installation of additional temporary piezometers along sewer beddings that run through the Lagoon area and additional water-level measurements.

NYSDEC Comment
Source determination must be conducted for the following areas of concern:

- *Soils adjacent to the sewers and the sewer bedding.*
- *Southwestern portion of the site (possibly under the parking lot).*
- *Lagoons*
- *Soil and groundwater contamination adjacent to the closed landfill.*
- *Areas of high metal concentrations in soils.*
- *High concentrations of contaminants in MP-SB-5, MP-SB-58, MP-MW-106, and in MP-MW-111*

Response
During performance of the RI and Supplemental RI, several areas were identified where soils could act as sources of dissolved constituents, primarily volatile organic compounds (VOCs) and arsenic, into groundwater. The primary potential VOC source areas include the former drum storage area, and a former underground storage tank south of Building 81. The primary arsenic source areas will be determined during performance of the scope of work for the Pre-Design Investigation.

The sources of dissolved constituents to the southwestern portion of the Site are assumed to be migration of dissolved constituents from the closed landfill along sewer bedding that borders the Site on the south. Similarly, sewer bedding along the northern border of the Main Plant is impacted by migration of dissolved constituents from the source areas defined above. These assumptions will be tested by additional soil and groundwater sampling and analysis to be performed during the Pre-Design Investigation.

NYSDEC Comment
Other concerns regarding the Remedial Investigation and Supplemental Remedial Investigation Report:

- *Spills that have not been remediated.*

Response
Two spills were identified by NYSDEC that occurred after a listing of spills was submitted to NYSDEC on March 28, 1998. The following additional information regarding any follow-up action taken by BASF is provided. NYSDEC incident # 9706996 refers to a release of phenol. This release apparently went into the process sewer and was collected in the lagoons with wastewater. Lagoon wastewater continued to be discharged as per normal regulations. We could not find any additional information

regarding this incident. There should be no measurable environmental impact resulting from this phenol release. NYSDEC incident # 9810536 refers to a sodium nitrite release at the Building 83 elevator. BASF records indicate the amount released was 752 lbs. and not 980 gallons. The NYSDEC incident report also notes that a significant amount of sodium nitrite was collected. We have no additional information regarding that recovery activity. Any potential impact from this release will be treated by a remediation strategy developed in the Feasibility Study. Therefore, BASF does not recommend any specific investigation to quantify the impact of the sodium nitrite release.

NYSDEC Comment

- *The landfill must be further studied to identify the possible source of the plume migrating northward onto the plant site, and contaminated soils in the same vicinity.*

Response

Temporary piezometers will be installed outside of the landfill perimeter and groundwater will be sampled from them during the Pre-Design Investigation to determine where impacted groundwater may be emanating from beneath the landfill. Details regarding the scope of work may be found in the Pre-Design Investigation Work Plan submitted to the NYSDEC on February 10, 2001. The impacted groundwater emanating from beneath the landfill will be addressed by upgrading the landfill leachate collection system.

NYSDEC Comment

- *High levels of arsenic at the South 40 need to be fully defined and addressed within the context of a proposed voluntary cleanup agreement (Arsenic detected at 13,000 ppm versus a guidance value of 7.5 ppm).*

Response

The South 40 parcel will be addressed separately under the proposed VCA as discussed during the October 20, 2000 meeting.

NYSDEC Comment

- *It is evident by reviewing boring logs, groundwater contours and groundwater concentrations that groundwater passes through the site, goes under the lagoons and exits into the Hudson River; carrying with it significant contamination. Site impacts upon the surface water and sediments of the Hudson River need to be investigated and characterized.*

Response

In our meeting of January 19, 2001, BASF recommended that this issue not be addressed at this time and we thought the NYSDEC concurred with this recommendation. The results of the hydrogeologic investigation performed during the RI and Supplemental RI

indicate that there is a very limited flow zone of relatively low saturated thickness and permeability in the fill and alluvium beneath the Site. Pending further investigation, we do not agree with the assumption that "significant contamination" has been transported into the Hudson River via discharge of impacted groundwater.

NYSDEC Comment

- *It appears that there has been a limited investigation of the soils below the fill and deeper groundwater. It is highly recommended that a geologist review the report and provide comments on what additional investigation of this deeper strata is needed to complete the remedial investigation. There are sand lenses in the clay/silt layer that may significantly impact the migration of contaminants toward the Hudson River.*

Response
The scope of work for the Pre-Design Investigation includes the installation of a double-cased monitoring well into the sand and gravel unit below the lacustrine silt/clay unit and sampling and analysis of groundwater from the new well for VOCs, SVOCs and metals. This well is to be installed at a location that is west of onsite source areas in the upper saturated zone. The need for additional investigation of the sand and gravel unit will be based on a review of hydrogeologic and groundwater quality data obtained from the double-cased monitoring well.

NYSDEC Comment

- *Many large sewers pass through the site and various areas of groundwater or soil contamination. These act as conduits for the contamination, which in turn effect the receiving waters. These effects need to be determined.*

Response
As discussed above, the potential for sewer bedding to act as conduits for migration of dissolved constituents has been identified as an issue in the RI Report. The potential for sewer bedding to act as conduits for constituent migration will be investigated further during the Pre-Design Investigation.

NYSDEC Comment

- *The demolition of the buildings will require NYSDEC oversight. The presence of asbestos, mercury, capacitors, etc. must be determined and proper disposal options identified.*

Response
The building demolition and debris disposal will be performed in accordance with applicable NYSDEC regulations

NYSDEC Comment

- *At our October 20, 2000 meeting, BASF indicated that it planned on addressing the landfill and South 40 sites under a Voluntary Cleanup Agreement (VCA). In light of the RI findings to date, the scope of work under the VCA should be developed so it can be carried out in step with the second phase of the RI work for the plant site.*

Response

BASF will prepare and submit an application under the Voluntary Cleanup Program (VCP) to address the South 40 parcel. To the extent practicable, remedial activities at the South 40 parcel under the VCP will be coordinated with remedial activities at the Main Plant under the consent order to accommodate the accelerated time table for Site remediation and re-development proposed at the October 20, 2000 meeting.

The RI results have indicated that impacted leachate is migrating from the closed landfill to beneath the Main Plant area. The current leachate collection system is not effectively mitigating leachate migration. BASF proposes to install a perimeter groundwater containment system to address impacted groundwater migrating from the Main Plant area. An upgraded landfill leachate collection system will be incorporated into the perimeter containment system.

NYSDEC Comment

- *It will be necessary to evaluate the following alternatives for the FS: 1) the excavation of soils - removal of hot spots (239,000 ppm chromium, 151,000 ppm copper, 488,000 ppm lead, 50 ppm mercury, 13,000 ppm arsenic), and 2) groundwater - a pump and treat system along Riverside Ave. to eliminate discharges to the Hudson river.*

Response

As discussed with the NYSDEC during our January 19, 2001 meeting, the FS will include evaluation of alternatives that address areas of soil that appear to be sources of dissolved constituents to groundwater.

As was also discussed during this meeting, containment of impacted groundwater to prevent continued off-site transport of dissolved constituents will also be evaluated in the FS.

NYSDEC Comment

- *The draft FS is required to assist in determining the cost/benefit relationships (and thereby the action levels) for this site.*

Response
We agree with this comment. The draft FS is scheduled for submittal to the NYSDEC in March 2001.

NYSDEC Comment

- *What will be the role of the Rensselaer City Industrial Agency in the project ? It is our understanding that they have requested to be involved with the development of the FS.*

Response
It is anticipated that the IDA will have the standard ownership involvement in the Empire State Newsprint project proposed for the Site as a pass-through entity. We know of no requests by the IDA to be involved in the development of the FS.

NYSDEC Comment

The review of the RI and discussions at our last meeting (October 20, 2000) have identified issues that require appropriate resolution. These include:

1. *As discussed above, the department expects that BASF will address the landfill and South 40 sites under a VCA. If a VCA is not pursued, amending the existing order or developing a new consent order would be alternative approaches for BASF to consider in relation to addressing these areas.*

Response
As discussed during the October 20, 2000 meeting, and as noted above, BASF expects that the South 40 parcel will be addressed pursuant to the Voluntary Cleanup Program (VCP). BASF has performed additional soil sampling in the South 40 parcel. The results will be submitted in a Site Investigation report to the NYSDEC. The results of the investigation failed to confirm the high concentrations of arsenic detected in soil during a 1988 site investigation, although elevated concentrations were detected. The South 40 parcel has been classified as Class 3 (poses no significant threat to the environment). Nothing discovered during the course of the most recent investigation indicates that this classification should be revised. BASF will be pursuing a VCP solely for the purpose of obtaining authorization for a change in use so the parcel can be developed.

As discussed previously, BASF plans to install a groundwater perimeter containment system as part of its program to remediate the Main Plant area. The groundwater containment system will have components that replace and upgrade the current leachate collection system for the landfill.

NYSDEC Comment

2. *After reviewing the hydro-geological data provided for the plant site it is clearly evident that contaminated site groundwater, both currently and historically, discharges to the Hudson River. We believe this can be addressed under a modified order as a second operable unit of the plant site.*

Response

As discussed above, BASF does not agree that it is "clearly evident" that contaminated groundwater discharges to the Hudson River. There is currently no data to support this statement. Discharge to the Hudson River may be low due to low flow conditions that have been inferred to exist based on hydrogeologic data and observations, including low saturated thickness, a low hydraulic gradient adjacent to the river and low hydraulic conductivity of the aquifer.

There may also be geochemical mechanisms that may reduce the concentrations of dissolved constituents in groundwater before discharge into the Hudson River. For example, high concentrations of dissolved arsenic in groundwater may be the result of strongly reducing conditions, as evidenced by low to zero dissolved oxygen measured during groundwater sampling and very high concentrations of dissolved iron. If there is a transition zone from reducing to oxidizing conditions as the groundwater/surface water interface is approached in the aquifer, dissolved metals precipitation may occur before groundwater discharges into the Hudson River.

At this time there is no basis for concluding that dissolved constituents in groundwater from beneath the Main Plant and Lagoon areas have adversely impacted Hudson River quality. BASF recommends that this issue be addressed independently of the RI/FS of the Main Plant and Lagoon areas so as not to adversely impact the accelerated timeframe for remediation, which could potentially jeopardize the beneficial re-development of the Site. As stated earlier, it was our understanding that the NYSDEC had previously accepted our recommendations to not proceed with this issue at this time.

NYSDEC Comment

3. *Although discussed at the meeting on January 19, 2001; the* department *requests that a letter be submitted by BASF identifying Remedial Action Objectives that the company plans to build into the FS. This should facilitate development of an approvable FS report.*

Response
Due to the accelerated time table for Site remediation and re-development, the draft FS will be submitted by the beginning of March 2001. This FS report will clearly identify BASF's Remedial Action Objectives.

Sincerely,

ROUX ASSOCIATES, INC.

Nathan Epler, Ph.D.
Principal Hydrogeologist

Attachments

cc: Rudolf Trinks, BASF Corporation
Dick Clark, Besicorp Development, Inc.
Peter Gerbasi, Roux Associates, Inc.
Charlie McGuckin, Roux Associates, Inc.
Michael Roux, Roux Associates, Inc.

ATTACHMENT A

LEGEND

LOCATION PREFIXES
LG – LAGOON
MP – MAIN PLANT
LF – LANDFILL
ST – ORGANICHEM PROPERTY
(FORMERLY STERLING ORGANICS)

- EXISTING BUILDING
- FORMER BUILDING
- FORMER OR EXISTING ALLEGED UNDERGROUND TANK OR PIT
- C① E① O① U① D① — DESIGNATES POTENTIAL AREA OF INTEREST, TABLE 3-1 "REMEDIAL INVESTIGATION WORKPLAN" MALCOM PIRNIE, INC., 1998
- STORM SEWER GRATE
- OVERHEAD UTILITY SUPPORTS
- BARBED WIRE FENCE
- CHAINLINK FENCE
- LG-MH-7 — LOCATION AND DESIGNATION OF SEWER BEDDING GROUNDWATER SAMPLING POINT
- LOCATION OF SOIL GAS SAMPLING POINT
- MP-SB-114 — LOCATION AND DESIGNATION OF SOIL BORING
- MP-MW-101 — LOCATION AND DESIGNATION WHERE SOIL SAMPLES WERE OBTAINED FROM A PILOT BOREHOLE AND A MONITORING WELL WAS COMPLETED DURING THE RI
- LG-MW-1 — LOCATION AND DESIGNATION OF MONITORING WELL COMPLETED PRIOR TO 10/99 AND SAMPLED DURING THE RI
- MP-PP-5 — LOCATION AND DESIGNATION OF PERFORATED PIPE SAMPLING POINT (NOT SAMPLED DURING THE RI)
- LF-PZ-5 — LOCATION AND DESIGNATION OF PIEZOMETER (NOT SAMPLED DURING THE RI)
- ST-MW-6A — LOCATION AND DESIGNATION OF MONITORING WELL (NOT SAMPLED DURING THE RI)

100' 0 100'

NOTES:
(1) BASE MAP ADAPTED FROM PLATE 1, "REMEDIAL INVESTIGATION WORKPLAN" (MALCOLM PIRNIE, INC., 1998)
(2) THE LOCATIONS SHOWN IN HALFTONE WERE NOT SAMPLES DURING THE RI.

Title:
REMEDIAL INVESTIGATION SAMPLING LOCATIONS (REVISED)
RENSSELAER, NEW YORK FACILITY

Prepared For:
BASF CORPORATION
MOUNT OLIVE, NEW JERSEY

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: M.R.	Date: 03NOV00	PLATE 1
Prepared by: R.K.	Scale: AS SHOWN	
Project Mgr: N.E.	Office: NY	
File No: BF1114104	Project: 25111Y	

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LEGEND

LOCATION PREFIXES
- LG – LAGOON
- MP – MAIN PLANT
- LF – LANDFILL
- ST – ORGANICHEM PROPERTY (FORMERLY STERLING ORGANICS)

EXISTING BUILDING

FORMER BUILDING

FORMER OR EXISTING ALLEGED UNDERGROUND TANK OR PIT

C① E① O① U① D① — DESIGNATES POTENTIAL AREA OF INTEREST, TABLE 3–1 "REMEDIAL INVESTIGATION WORKPLAN" MALCOM PIRNIE, INC., 1998

STORM SEWER GRATE

OVERHEAD UTILITY SUPPORTS

BARBED WIRE FENCE

CHAINLINK FENCE

APPROXIMATE LOCATION OF PERFORATED PIPE

MP-SB-113 — LOCATION AND DESIGNATION OF SOIL BORING

MP-GS-1 — LOCATION AND DESIGNATION OF GROUNDWATER SCREENING SAMPLE

MP-SB-19 — LOCATION AND DESIGNATION OF SOIL BORING AND GROUNDWATER SCREENING SAMPLE

MP-PP-5 — LOCATION AND DESIGNATION OF PERFORATED PIPE SAMPLING POINT

LF-MW-43R — LOCATION AND DESIGNATION OF MONITORING WELL

LG-MH-7 — LOCATION AND DESIGNATION OF SEWER BEDDING SAMPLING POINT

MP-MW-101 — LOCATION AND DESIGNATION OF MONITORING WELL (NOT SAMPLED)

LF-PZ-5 — LOCATION AND DESIGNATION OF PIEZOMETER (NOT SAMPLED)

100' 0 100'

NOTES:

(1) BASE MAP ADAPTED FROM PLATE 1, "REMEDIAL INVESTIGATION WORKPLAN" (MALCOLM PIRNIE, INC., 1998)

(2) ALL LOCATION SHOWN IN HALFTONE WERE NOT SAMPLED DURING THE SUPPLEMENTAL RI.

Title:

SUPPLEMENTAL REMEDIAL INVESTIGATION SAMPLING LOCATIONS (REVISED)

RENSSELAER, NEW YORK FACILITY

Prepared For:

BASF CORPORATION
MOUNT OLIVE, NEW JERSEY

ROUX ASSOCIATES, INC. Environmental Consulting & Management	Compiled by: M.R.	Date: 02NOV01	PLATE 2
	Prepared by: R.K.	Scale: AS SHOWN	
	Project Mgr: N.E.	Office: NY	
	File No: BF1114103	Project: 25111Y	

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ATTACHMENT B

Table A1. Summary of Chemicals Analyzed for in Soil, BASF Corporation, Rensselaer, New York

Analyses performed by:
Accutest Laboratories
2235 Route 130
Dayton, New Jersey 08810
New York State Certification Number: 10983

Volatile Organic Compounds
SW846 8260B

1,1,1-Trichloroethane
1,1,2,2-Tetrachloroethane
1,1,2-Trichloroethane
1,1-Dichloroethane
1,1-Dichloroethene
1,2-Dichloroethane
1,2-Dichloropropane
2-Butanone (MEK)
2-Hexanone
4-Methyl-2-pentanone(MIBK)
Acetone
Benzene
Bromodichloromethane
Bromoform
Bromomethane
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chloroethane
Chloroform
Chloromethane
cis-1,2-Dichloroethene
cis-1,3-Dichloropropene
Dibromochloromethane
Ethylbenzene
Methylene chloride
Styrene
Tetrachloroethene
Toluene
trans-1,2-Dichloroethene
trans-1,3-Dichloropropene
Trichloroethene
Vinyl chloride
Xylene (total)

Semivolatile Organic Compounds
SW846 8270C

1,2,4-Trichlorobenzene
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
2,4-Dichlorophenol
2,4-Dimethylphenol
2,4-Dinitrophenol
2,4-Dinitrotoluene
2,6-Dinitrotoluene
2-Chloronaphthalene
2-Chlorophenol
2-Methylnaphthalene
2-Methylphenol
2-Nitroaniline
2-Nitrophenol
3&4-Methylphenol
3,3'-Dichlorobenzidine
3-Nitroaniline
4,6-Dinitro-o-cresol
4-Bromophenyl phenyl ether
4-Chloro-3-methyl phenol
4-Chloroaniline
4-Chlorophenyl phenyl ether
4-Nitroaniline
4-Nitrophenol
Acenaphthene
Acenaphthylene
Anthracene
Benzo(a)anthracene
Benzo(a)pyrene
Benzo(b)fluoranthene
Benzo(g,h,i)perylene
Benzo(k)fluoranthene
bis(2-Chloroethoxy)methane
bis(2-Chloroethyl)ether
bis(2-Chloroisopropyl)ether
bis(2-Ethylhexyl)phthalate
Butyl benzyl phthalate
Carbazole
Chrysene
Di-n-butyl phthalate
Di-n-octyl phthalate
Dibenzo(a,h)anthracene
Dibenzofuran
Diethyl phthalate
Dimethyl phthalate
Fluoranthene
Fluorene
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Indeno(1,2,3-cd)pyrene
Isophorone
N-Nitroso-di-n-propylamine
N-Nitrosodiphenylamine
Naphthalene
Nitrobenzene
Pentachlorophenol
Phenanthrene
Phenol
Pyrene

Table A1. Summary of Chemicals Analyzed for in Soil, BASF Corporation, Rensselaer, New York

Analyses performed by:
Accutest Laboratories
2235 Route 130
Dayton, New Jersey 08810
New York State Certification Number: 10983

Metals
SW846 6010B
SW846 7471B
SW846 9012 M

Aluminum
Antimony
Arsenic
Barium
Beryllium
Cadmium
Calcium
Chromium
Cobalt
Copper
Cyanide
Iron
Lead
Magnesium
Manganese
Mercury
Nickel
Potassium
Selenium
Silver
Sodium
Thallium
Vanadium
Zinc

Pesticides
SW846 8081A

4,4'-DDD
4,4'-DDE
4,4'-DDT
Aldrin
alpha-BHC
alpha-Chlordane
beta-BHC
Decachlorobiphenyl
delta-BHC
Dieldrin
Endosulfan sulfate
Endosulfan-I
Endosulfan-II
Endrin
Endrin aldehyde
Endrin ketone
gamma-BHC (Lindane)
gamma-Chlordane
Heptachlor
Heptachlor epoxide
Methoxychlor
Tetrachloro-m-xylene
Toxaphene

Polychlorinated Biphenyls
SW846 8082

Aroclor 1016
Aroclor 1221
Aroclor 1232
Aroclor 1242
Aroclor 1248
Aroclor 1254
Aroclor 1260

Table A2. Summary of Chemicals Analyzed for in Groundwater, BASF Corporation, Rensselaer, New York

Analyses performed by:
Accutest Laboratories
2235 Route 130
Dayton, New Jersey 08810
New York State Certification Number: 10983

Volatile Organic Compounds SW846 8260B	Semivolatile Organic Compounds SW846 8270C	
1,1,1-Trichloroethane	1,2,4-Trichlorobenzene	Chrysene
1,1,2,2-Tetrachloroethane	1,2-Dichlorobenzene	Di-n-butyl phthalate
1,1,2-Trichloroethane	1,3-Dichlorobenzene	Di-n-octyl phthalate
1,1-Dichloroethane	1,4-Dichlorobenzene	Dibenzo(a,h)anthracene
1,1-Dichloroethene	2,4,5-Trichlorophenol	Dibenzofuran
1,2-Dichloroethane	2,4,6-Trichlorophenol	Diethyl phthalate
1,2-Dichloropropane	2,4-Dichlorophenol	Dimethyl phthalate
2-Butanone (MEK)	2,4-Dimethylphenol	Fluoranthene
2-Hexanone	2,4-Dinitrophenol	Fluorene
4-Methyl-2-pentanone(MIBK)	2,4-Dinitrotoluene	Hexachlorobenzene
Acetone	2,6-Dinitrotoluene	Hexachlorobutadiene
Benzene	2-Chloronaphthalene	Hexachlorocyclopentadiene
Bromodichloromethane	2-Chlorophenol	Hexachloroethane
Bromoform	2-Methylnaphthalene	Indeno(1,2,3-cd)pyrene
Bromomethane	2-Methylphenol	Isophorone
Carbon disulfide	2-Nitroaniline	N-Nitroso-di-n-propylamine
Carbon tetrachloride	2-Nitrophenol	N-Nitrosodiphenylamine
Chlorobenzene	3&4-Methylphenol	Naphthalene
Chloroethane	3,3'-Dichlorobenzidine	Nitrobenzene
Chloroform	3-Nitroaniline	Pentachlorophenol
Chloromethane	4,6-Dinitro-o-cresol	Phenanthrene
cis-1,2-Dichloroethene	4-Bromophenyl phenyl ether	Phenol
cis-1,3-Dichloropropene	4-Chloro-3-methyl phenol	Pyrene
Dibromochloromethane	4-Chloroaniline	
Ethylbenzene	4-Chlorophenyl phenyl ether	
Methylene chloride	4-Nitroaniline	
Styrene	4-Nitrophenol	
Tetrachloroethene	Acenaphthene	
Toluene	Acenaphthylene	
trans-1,2-Dichloroethene	Anthracene	
trans-1,3-Dichloropropene	Benzo(a)anthracene	
Trichloroethene	Benzo(a)pyrene	
Vinyl chloride	Benzo(b)fluoranthene	
Xylene (total)	Benzo(g,h,i)perylene	
	Benzo(k)fluoranthene	
	bis(2-Chloroethoxy)methane	
	bis(2-Chloroethyl)ether	
	bis(2-Chloroisopropyl)ether	
	bis(2-Ethylhexyl)phthalate	
	Butyl benzyl phthalate	
	Carbazole	

Table A2. Summary of Chemicals Analyzed for in Groundwater, BASF Corporation, Rensselaer, New York

Analyses performed by:
Accutest Laboratories
2235 Route 130
Dayton, New Jersey 08810
New York State Certification Number: 10983

Metals
EPA 200.7
EPA 335.3
EPA 245.1

Aluminum
Antimony
Arsenic
Barium
Beryllium
Cadmium
Calcium
Chromium
Cobalt
Copper
Cyanide
Iron
Lead
Magnesium
Manganese
Mercury
Nickel
Potassium
Selenium
Silver
Sodium
Thallium
Vanadium
Zinc

Pesticides
SW846 8081A

4,4'-DDD
4,4'-DDE
4,4'-DDT
Aldrin
alpha-BHC
alpha-Chlordane
beta-BHC
Decachlorobiphenyl
delta-BHC
Dieldrin
Endosulfan sulfate
Endosulfan-I
Endosulfan-II
Endrin
Endrin aldehyde
Endrin ketone
gamma-BHC (Lindane)
gamma-Chlordane
Heptachlor
Heptachlor epoxide
Methoxychlor
Tetrachloro-m-xylene
Toxaphene

Polychlorinated Biphenyls
SW846 8082

Aroclor 1016
Aroclor 1221
Aroclor 1232
Aroclor 1242
Aroclor 1248
Aroclor 1254
Aroclor 1260

ATTACHMENT C

6.0 CONSTITUENT FATE AND TRANSPORT

An evaluation of the environmental fate and transport of constituents that exceeded the NYSDEC Ambient Water-Quality Standards (groundwater) and RSCOs (soil) at the Site was performed to support the RI and FS.

6.1 Potential Routes of Migration

The primary routes of constituent migration at the Site include the following:

- Leaching of adsorbed constituents from soil and into groundwater; and
- Transport of dissolved constituents in groundwater.

Because most of the Site is paved, migration of constituents along other routes (e.g., sediment transport, surface-water transport, discharge from groundwater to surface water and volatilization from soil) is assumed to be minimal. Also, the paving is graded to direct all runoff to on-site storm drains instead of to the adjacent properties.

Currently, the Main Plant area contains active manufacturing buildings. Therefore, in addition to the above routes of migration, there is still the potential for direct discharge of process wastes into soil and groundwater beneath the Site through potentially deteriorated process and storm sewers.

6.1.1 Leaching of Adsorbed Constituents From Soil into Groundwater

The amount of water available to leach chemicals from soil into groundwater is a function of annual rainfall, the fraction of rainfall that percolates downward and the amount of groundwater migrating onto the site. Because the Site is relatively flat, is mostly paved and drains to on-site storm sewers little annual rainfall recharges soil except for the few locations that are covered by gravel or grass. Therefore, most of the groundwater beneath the Site originates as underflow beneath the Main Plant area from offsite to the east. However, due to the relatively shallow depth to the water table (less than 5 feet over most of the Site), and the relatively high concentrations of constituents adsorbed onto soil beneath the site, dissolved constituents are leached by direct contact of groundwater with impacted soil.

6.1.2 Transport of Dissolved Constituents in Groundwater

Transport in groundwater is the prevalent route of constituent migration at the Site. As noted above in Section 5.4, there are several constituents of primary concern that are present in groundwater. These include the following:

- Metals – Arsenic
- VOCs – 1,2-dichloroethane, BTEX compounds and chlorobenzene
- SVOCs – 1,2-dichlorobenzene, 1,4-dichlorobenzene, 1,2,4-trichlorobenzene and phenol.

These constituents are migrating in groundwater along the flow directions described in Section 4.3.2. With the exception of BTEX compounds (primarily benzene), most of the sources of dissolved constituents in groundwater are in soil beneath the Main Plant and lagoon areas. Groundwater flowing west from the main plant area contains dissolved VOCs, SVOCs and metals (primarily arsenic) leached from soil sources. As noted, the lagoons present a partial barrier to westward migration of dissolved constituents. Therefore, most of the impacted groundwater flow is directed northwest toward the buried sewer and perforated pipe along the border between BASF and Organichem properties. As noted by the relatively low concentrations of dissolved constituents in groundwater from adjacent Organichem wells, there was virtually no migration occurring to the north and beneath Organichem property. Most of the flow appears to be directed along the sewer / perforated pipe conduit and offsite toward the west.

High concentrations of BTEX compounds, primarily benzene, were also noted in groundwater from landfill monitoring well MW-43R. These BTEX compounds are assumed to be migrating north from beneath the landfill area to the Main Plant in the vicinity of Monitoring Wells MP-MW-111 and MP-MW-108, where high concentrations of benzene were also observed (Plate 10A).

Another potential route of constituent migration in groundwater exists along the southern border of the landfill and the parking lot of the Main Plant. As noted in Plate 13, three sewers run east-west along this route. These sewers and associated sewer bedding present potentially

transmissive conduits for constituent migration offsite to the west. Supporting observations for this route of dissolved constituent transport include:

- High concentrations of benzene and chlorobenzene in sewer bedding location LG-M7, with decreasing concentrations to the north along the sewer beneath Riverside Avenue at sewer bedding location LG-M6 and LG-M5;
- Benzene, chlorobenzene and 1,2-dichloroethane were also observed in groundwater screening samples obtained from the southwest corner of the parking lot (locations MP-GS-48 through 50), but at lower concentrations than in sewer bedding samples from LG-M7.

Decreasing VOC concentrations were observed in other sewer bedding samples obtained from the sewer that runs north-south beneath Riverside Avenue. Therefore, the higher concentrations observed in the vicinity of LG-M7 did not originate from the sewer main beneath Riverside Avenue. Moreover, the lower concentrations of VOCs in groundwater screening samples from locations MP-GS-48 through 50 relative to the sample from LG-M7 does not suggest that constituents are migrating southwest toward LG-M7 from the Main Plant Area. Therefore, the probable route of constituent migration toward LG-M7 is along the sewers running east-west from just south of the landfill area. As noted, high concentrations of VOCs, including chlorobenzene and benzene were observed in groundwater from landfill monitoring well LF-MW-43R. Therefore, impacted groundwater from beneath the landfill may also be migrating south until it intersects the sewer bedding. The sewer bedding is a relatively high hydraulic conductivity conduit, compared to the surrounding fill, for migration of dissolved constituents, primarily VOCs, to the west and beneath the southern portion of the lagoon area.

Arsenic in Groundwater

Arsenic was observed at relatively high concentrations compared to NYS AWQS in groundwater beneath the northwestern portion of the Main Plant area and beneath the lagoon area (Plates 9 and 12). Under reducing conditions, two mechanisms serve to enhance the mobility of dissolved arsenic in groundwater:

- Arsenate (As^{+5}) being reduced to arsenite (As^{+3}), which is not ionically bound to the soil matrix; and
- Ferric iron (Fe^{+3}) being reduced to ferrous iron (Fe^{+2}), thereby decreasing the adsorptive capacity of iron oxy-hydroxides on the soil matrix.

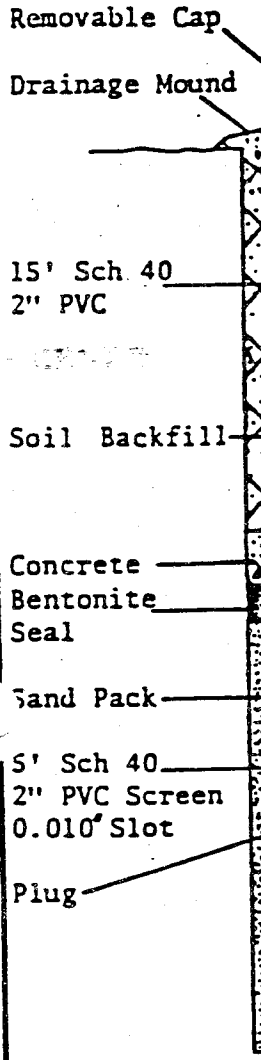
Therefore, arsenic solubility is enhanced under the reducing conditions. Reducing conditions prevail in groundwater beneath the site as evidenced by the low to zero dissolved oxygen observed during groundwater sampling (Table 3) and the high concentrations of dissolved iron in groundwater (Table 11 and Plate 9).

The localized high concentrations of dissolved arsenic in groundwater beneath the western portion of the Main Plant and the lagoon area suggests that the source of the arsenic is in soil from beneath these areas.

ATTACHMENT D

LOCATION: NORTH ℄
EL CSG: 17.73' S.L.
COORD S85 - 01605

BORING B-1



SOIL OR ROCK CLASSIFICATION	NOTES
TOPSOIL (4")	Note #1: At completion of boring, a 2" I.D. P.V.C. water observation well was installed to 18.0'. At time of installation, no free water in hole.
FILL: Dark Brown fine to coarse SAND, Some Silt, Some Cinders & ash, little fine gravel.	
grades Brown fine to coarse SAND, trace fine gravel, trace silt (Moist)	
grades "trace" cinders & ash w/thin seams of Grey CLAY noted.	
grades "little" fine gravel	
grades "little" fine to coarse gravel	
(Damp to Moist-Compact to Firm) 12.0'	
Grey SILT, little clay; grades fine to medium SAND, Some Silt @ 13.0'.	
thin seam of Grey CLAY noted, trace wood frags.	
(Wet-Loose) 16.0'	
Grey varved CLAY, little silt w/thin seam of Brown PEAT noted.	
Layer of Black PEAT noted 17.0'-18.0'	
(Wet-Soft)	

0
5
10
15
20

END OF BORING @ 24.0'

KEY

- RESIDUAL SOIL
- GRAVEL
- SAND OR ALLUVIUM
- SILT
- CLAY
- ORGANIC MATERIAL
- SLAG
- FILL

DRILLED 11-5-81

EMPIRE SOILS INVESTIGATIONS, INC.

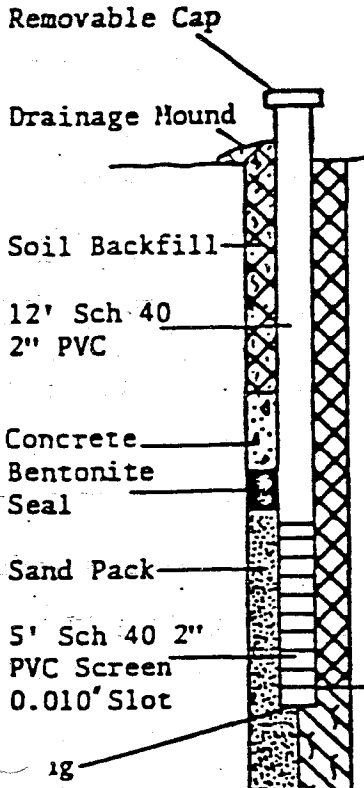
SUBSURFACE INVESTIGATION LOG

Observation Well Installation
BASF-Wyandotte
Rensselaer, New York

DR. BY: RWD	SCALE: 1" = 5'	PROJ. NO. AD-81-87
CK'D BY. RWD		DRWG NO. B-1

LOCATION: ℄ NORTH POND
EAST SIDE
EL CSG: 19.86' S.L.

BORING B-2 COORD: S 370 - W 1495



SOIL OR ROCK CLASSIFICATION	NOTES
FILL: Dark Brown fine to coarse SAND, Some Silt, little fine to coarse gravel, trace cinders & ash.	Note #1: At completion of boring, a 2" I.D. P.V.C. groundwater observation well was installed to 14.5'. At time of installation, no free water in hole.
-grades Brown, trace silt, trace fine gravel, w/ thin seams of Grey CLAY & Brown SILT noted.	
-grades "AND" fine to coarse GRAVEL, Some Silt. (Damp to Moist-Compact to Firm) 14.0'	
Brown varved CLAY AND SILT, trace embedded fine gravel & organic streaks noted. Grades Grey, little silt @ 16.0'.	
-(wet) (Moist to Wet-Stiff to Medium)	

0
5
10
15
20

END OF BORING @ 20.0'

KEY

- RESIDUAL SOIL
- GRAVEL
- SAND OR ALLUVIUM
- SILT
- CLAY
- ORGANIC MATERIAL
- SLAG
- FILL

DRILLED 11-5-81

EMPIRE SOILS INVESTIGATIONS, INC.

SUBSURFACE INVESTIGATION LOG

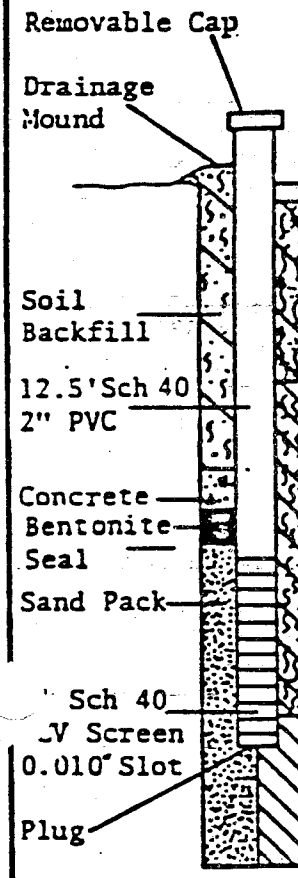
Observation Well Installation
BASF-Wyandotte
Rensselaer, New York

DR.BY: RWD	SCALE: 1' = 5'	PROJ NO AD-81-87
CK'D BY: RWD		DRWG NO B-2

LOCATION: ℄ SOUTH POND
EAST SIDE

EL CSG: 19.74' S.L.

BORING B-3 COORD: S760 - W1495



SOIL OR ROCK CLASSIFICATION	NOTES.
TOPSOIL (3")	0
Brown SILT, Some Clay w/Some embedded fine to coarse Sand & fine Gravel.	Note #1: At completion of boring, a 2" I.D. P.V.C. groundwater observation well was installed to 15.0' Groundwater level at 12.0' before installation of well.
(Damp-Firm) 5.0'	5
Brown mottled SILT & CLAY, trace fine sand, trace organic material.	
grades varved, w/organic streaks noted.	10
seams of Brown SILT noted (wet) (Damp to Wet-Medium to Stiff) 14.0'	
Grey CLAY w/thin seams of Grey SILT, Some Clay noted.	15
(Wet-Medium)	

END OF BORING @ 18.0'

KEY

- RESIDUAL SOIL
- GRAVEL
- SAND OR ALLUVIUM
- SILT
- CLAY
- ORGANIC MATERIAL
- SLAG
- FILL

DRILLED 11-6-81

EMPIRE SOILS INVESTIGATIONS, INC.

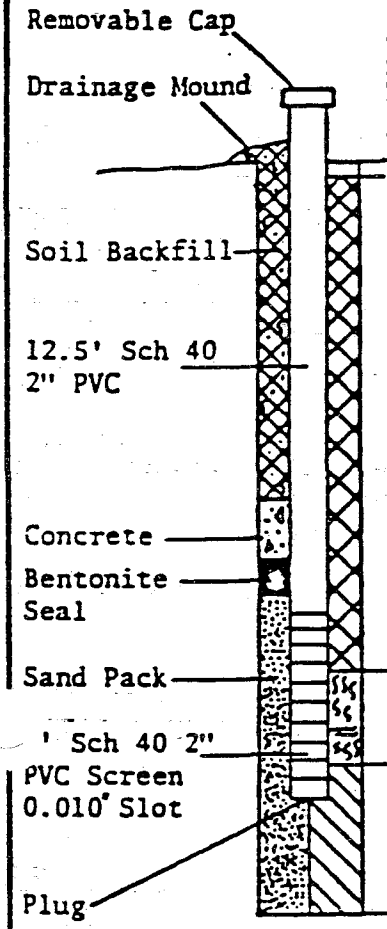
SUBSURFACE INVESTIGATION LOG

Observation Well Installation
BASF-Wyandotte
Rensselaer, New York

DR.BY: RWD	SCALE: 1" = 5'	PROJ. NO. AD-81-87
CHKD.BY: RWD		DRWG NO. B-3

LOCATION: SOUTH ℄
EL CSG: 17.06' S.L.
COORD: S965 - W1610

BORING B-4



SOIL OR ROCK CLASSIFICATION	NOTES
TOPSOIL (4")	Note #1: At completion of boring, a 2" I.D. P.V.C. groundwater observation well was installed to 17.0' At time of installation, no free water in hole.
FILL: Brown fine to coarse SAND, Some Silt, trace fine gravel, trace cinders & ash.	
grades Grey SILT, trace clay w/a thin seam of Black Organic material noted.	
grades Grey-Brown fine to coarse SAND, Some fine to coarse Gravel, Some Silt, trace orgaincs, cinders & brick frags (Damp to Moist-Firm to Loose) 13.5'	
Dark Grey SILT w/seams of ORGANICS noted. (Moist-Loose) 16.0'	
Grey CLAY, little silt w/thin seams of Grey-Brown fine to coarse SAND, trace wood. grades CLAY. (Moist to Wet-Medium to Soft)	

0
5
10
15
20

END OF BORING @ 20.0'.

KEY

- RESIDUAL SOIL
- GRAVEL
- SAND OR ALLUVIUM
- SILT
- CLAY
- ORGANIC MATERIAL
- SLAG
- FILL

DRILLED 11.7.81

EMPIRE SOILS INVESTIGATIONS, INC.

SUBSURFACE INVESTIGATION LOG

Observation Well Installation
BASF-Wyandotte
Rensselaer, New York

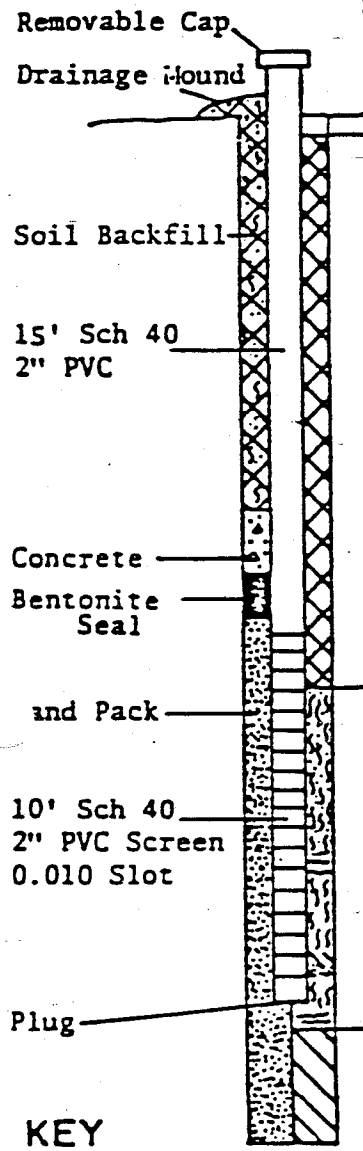
DR BY RWD	SCALE: 1' = 5'	PROJ NO AD-81-87
CK'D BY RWD		DRWG NO B-4

LOCATION: E SOUTH POND
WEST SIDE

BORING B-5

EL CSG: 16.48' S.L.

COORD: S730 - W1725



SOIL OR ROCK CLASSIFICATION	NOTES
TOPSOIL (4")	
FILL: Dark Brown fine to coarse SAND, Some Silt, little concrete & brick frags, cinders. (Damp)	Note #1: At completion of boring, a 2" I.D. P.V.C. groundwater observation well was installed to 24.0'. Groundwater level at 16.5' before installation of well.
grades Brown fine to medium SAND, trace fine gravel, trace silt (Dry)	
little Recovery; grades trace cinders	
thin seams of dark Grey SILT & Black Organic material noted (Moist)	
(Dry to Moist-Firm to Loose) 15.0'	
Dark Grey organic SILT AND embedded fine to coarse SAND, trace wood (Wet)	
grades Some embedded fine Sand.	
little Recovery: Black PEAT & WOOD frags.	
grades alternating seams of SILT, CLAY & fine to medium SAND, trace wood.	
seam of Black PEAT noted.	
(Wet-Loose to Firm) 24.0'	
Grey CLAY, little silt.	
(Wet-Medium)	

0 5 10 15 20 25

END OF BORING @ 27.0'

KEY

- RESIDUAL SOIL
- GRAVEL
- SAND OR ALLUVIUM
- SILT
- CLAY
- ORGANIC MATERIAL
- SLAG
- FILL

DRILLED 11.10.81

EMPIRE SOILS INVESTIGATIONS, INC.

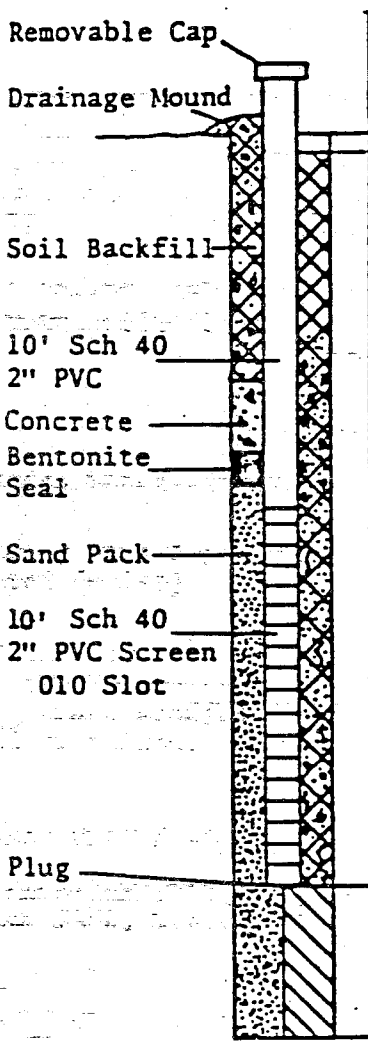
SUBSURFACE INVESTIGATION LOG

Observation Well Installation
BASF-Wyandotte
Rensselaer, New York

DR BY: RWD	SCALE: 1" = 5'	PROJ NO. AD-81-87
CK'D BY RWD		DRWG NO. B-5

LOCATION: ℄ NORTH POND
WEST SIDE
EL. CSG: 16.91' S.L.
COORD: S310 - W1720

BORING B-6



SOIL OR ROCK CLASSIFICATION	NOTES
TOPSOIL (5")	Note #1: At completion of boring, a 2" I.D. P.V.C. groundwater observation well was installed to 20.0'. At time of installation, no free water in hole.
FILL: Dark Brown fine to medium SAND, Some Silt, little clay, trace fine gravel, trace cinders.	
-grades fine to coarse SAND, little fine gravel.	
-grades Brown fine to medium SAND, trace silt w/ a seam of Grey SILT, trace cinders noted.	
-grades Dark Grey-Brown fine to coarse SAND, little fine gravel, little silt (Wet)	
(Damp to Wet-Compact to Firm) 20.0'	
Grey CLAY, Some Silt	
(Moist to Wet-Medium to Stiff)	
END OF BORING @ 24.0'	

0
5
10
15
20

KEY

- RESIDUAL SOIL
- GRAVEL
- SAND OR ALLUVIUM
- SILT
- CLAY
- ORGANIC MATERIAL
- SLAG
- FILL

DRILLED 11·10·81

EMPIRE SOILS INVESTIGATIONS, INC.

SUBSURFACE INVESTIGATION LOG

Observation Well Installation
BASF - Wyandotte
Rensselaer, New York

DR. BY: RWD	SCALE: 1" = 5'	PROJ NO AD-81-87
CK'D BY RWD		DRWG NO. B-6

4.0 PHYSICAL CHARACTERISTICS OF THE STUDY AREA

The study area encompasses approximately 40 acres in Rensselaer County, New York. The property is bordered to the north by Organichem, a chemical manufacturing plant that was formerly NYCOMED and Sterling Organics, and residential areas north of the Organichem plant. Riverside Avenue and the BASF capped landfill are located to the south with the BASF South 40 and a co-generation plant beyond. To the east are several Amtrak rail spurs and New York State Route 9J. The Hudson River is to the west (Figure 2).

4.1 Surface Features

The Site topography is generally flat and gently slopes down to the west. No naturally occurring surface-water bodies exist within the Site. A majority of the Site is paved with asphalt (approximately 0.5 feet thick) or covered by a building. A large gravel parking lot covers the southwest corner of the property. In addition, there are several gravel areas located throughout the Site including several former building footprints and a portion of the former railroad spur along the north edge of the property. Runoff from the Site is directed to storm drains located throughout the Site.

4.2 Geology

The evaluation of geologic conditions was based upon the Site-specific information developed during the drilling of the soil borings and monitoring well pilot boreholes, and published information (Fisher 1995, Cadwell 1987) on the regional or local geology. The geologic logs for the soil borings and the monitoring well pilot boreholes are included in Appendix C.

4.2.1 Regional Geology

The Site is located in the Hudson Valley of New York. Bedrock underlying the Site belongs to the Lorraine, Trenton, and Black River Groups and consists of shale, mudstone, and sandstone of the Normanskill Shale Formation (Fisher, 1995). Surficial geology in the vicinity of the Site consist of recent glacio-lacustrine deposits (Cadwell, 1987).

4.2.2 Site Geology

The Site is predominately underlain by fill, consisting of sand with silt and clay. The fill is approximately 5 to 10 feet thick beneath the BASF main plant and becomes slightly thicker

adjacent to the Hudson River. In the wastewater treatment lagoon area, the fill is underlain by alluvial deposits consisting of sand with gravel and some silt and clay. These alluvial deposits are approximately 18-feet thick adjacent to the Hudson River and pinch out along the eastern edge of the wastewater lagoons. Underlying the fill (alluvial deposits in the wastewater lagoon area) are glacial lacustrine deposits consisting of silty clay ranging from approximately 40-feet thick beneath the lagoon area and the western portion of the main plant to less than 10-feet thick beneath the eastern portion of the main plant. The glacial lacustrine deposits are underlain by a thin sand unit approximately 10-feet thick which rests on glacial till. Shale bedrock is below the glacial till (Malcolm Pirnie, 1994).

Generalized hydrogeologic Cross Sections A-A' and B-B' were prepared to present the geologic information developed during the field investigation, and are provided in Plate 3.

4.3 Hydrogeology

The evaluation of hydrogeologic conditions was based upon a review of two synoptic rounds of water-level measurements collected during the RI, and a review of the slug test results.

4.3.1 Regional Hydrogeology

The Site is located in the lower Hudson sub-basin of the Hudson River basin (Phillips, 1996). Regional groundwater flow is to the west and discharges into the Hudson River that borders the Site.

4.3.2 Site Hydrogeology

Two synoptic rounds of water-level measurements were collected; one on November 8, 1999 and one on April 24, 2000 from new and existing monitoring wells. These data are summarized in Table 2. A groundwater elevation map corresponding to the water-level measurement round performed during the Supplemental RI (April 24, 2000) is presented in Plate 4.

The water table underlying the Main Plant area occurs within the upper fill deposits. Depth to water beneath the Main Plant area ranged from 4.7 ft bls (MP-MW-110) to 8.6 ft bls (MP-MW-107) on November 8, 1999, and from 3.3 ft bls (MP_MW-110) to 8.2 ft bls (MP-MW-107) on April 24, 2000. Water-level elevations ranged from a high of over 16 feet

relative to mean sea level (ft msl) at the northeast corner of the Site to less that 2 ft msl adjacent to the Hudson River. This difference in elevation occurs over a distance of 1,900 feet for an average gradient of 0.0074 feet per foot. Note, however, that the groundwater flow direction across the Site is not uniform and contains perturbations that are assumed to indicate the influence of subsurface conduits (e.g. sewers).

Notable features of the water table contour map (Plate 4) include:

- An area of low groundwater elevation in the vicinity of the oil tank in the north central portion of the Site;
- A trough of low groundwater elevation along the northwest border of the Site;
- A groundwater elevation "high" in the vicinity of MP-MW-105 along the western border of the Main Plant area adjacent to Riverside Avenue; and
- A steep hydraulic gradient along the western border of the Main Plant area beneath Riverside Avenue and immediately east of the lagoon area.

The area of low groundwater elevation and the trough of low groundwater elevation are assumed to reflect the influence of sewers or sewer bedding on groundwater levels. As discussed, in 1995 BASF replaced sewers beneath the north-central and northeast portion of the Site. During sewer replacement, a perforated pipe was laid within the sewer trench prior to backfilling. The region of relatively low groundwater elevation may represent areas where sewer bedding or the perforated pipe is presenting a relatively transmissive conduit for groundwater flow offsite; first toward the northern border of the Site, then west toward Riverside Avenue. Note that groundwater level elevations beneath adjacent Organichem property to the north indicate flow south, also toward the trough. Therefore, based on groundwater levels obtained during the Supplemental RI, there is no off-site flow of groundwater toward the north beneath Organichem property.

The area of relatively high groundwater elevation along the western border of the Main Plant and the steep hydraulic gradient immediately west of the groundwater high is believe to be due primarily to the influence of the lagoons on groundwater flow. A schematic cross-section of the lagoon area was prepared by Malcolm Pirnie, Inc. in 1994 (Appendix E). The cross-section indicates that the bottoms of the clay-lined lagoons are below the water table and immediately

above the underlying varved silt and clay that represents the base of the water table aquifer. Soil borings completed in 1981 by Empire Soils Investigation indicate that the depth to the silt and clay ranges from 12 to 16 ft bls. A review of lagoon design drawings provided by BASF indicated that the bottom of the lagoon clay liners lies at approximately 16 ft bls. Therefore, the saturated thickness beneath the lagoons is very small (potentially less than one foot), which indicates the lagoons present a partial obstruction to groundwater flow westward. The steep hydraulic gradient presumably results from this impedance to groundwater flow.

4.3.3 Slug Test Analyses and Results

Roux Associates performed a series of slug tests on November 15 and 16, 1999 to determine the hydraulic characteristics of the deposits underlying the Site. The methods used for conducting the slug tests and analyzing the slug test data are presented in Appendix D.

Each rising-head slug test was analyzed to estimate the hydraulic conductivity (permeability) of the aquifer using the Bouwer and Rice (1976) method. Slug test analysis was facilitated using the aquifer test analysis software known as AQTESOLV (HydroSOLVE, Inc., 1998).

Nine of the twelve newly installed monitoring wells were tested at the Site. Monitoring Wells MP-MW-102 and MP-MW-103 were not tested due to insufficient water in the wells. Monitoring Well MP-MW-104 was excluded from testing because the well had not recovered from groundwater sampling conducted several days prior to slug testing. Slug test data from Monitoring Wells MP-MW-107 and MP-MW-108 could not be analyzed despite repeated attempts at testing the wells. Therefore, the data from these two wells were excluded. Seven of the wells provided at least one set of analyzable data. Horizontal hydraulic conductivity values estimated using the Bouwer and Rice (1976) slug test analysis method are summarized below:

Monitoring Well	Slug Test Type	Average Horizontal Hydraulic Conductivity (feet/day)	Description of Materials Within Screened Interval
MP-MW-101	Rising	105	Coarse to fine SAND, some fine Gravel, little Silt

Monitoring Well	Slug Test Type	Average Horizontal Hydraulic Conductivity (feet/day)	Description of Materials Within Screened Interval
MP-MW-105	Rising 1 Rising 2	115 120	Coarse to fine SAND, little fine Gravel, little Silt
	Average	118	
MP-MW-106	Rising	200	Coarse to fine SAND, some Silt, some fine Gravel
MP-MW-109	Rising	200	Coarse to fine SAND, little Silt, little fine Gravel
MP-MW-110	Rising 1 Rising 2	18 22	SILT, little fine Gravel, trace Sand, trace Clay
	Average	20	
MP-MW-111	Rising 1 Rising 2	160 165	FILL, coarse to fine SAND, little Silt, little fine Gravel
	Average	163	
MP-MW-112	Rising	170	Coarse to fine SAND, little fine Gravel, little Silt

The heterogeneity of the fill (i.e., gravel, sand, silt, and clay) in which the wells are screened accounts for the variability in the horizontal hydraulic conductivity values presented above. The average horizontal hydraulic conductivity value determined for the fill consisting of sand and gravel was 125 ft/d. The average horizontal hydraulic conductivity value determined for the fill consisting of silt and clay with minor amounts of coarse material was 20 ft/d.

ATTACHMENT E

8.0 INTEGRATED SITE REMEDY AND RE-DEVELOPMENT

On October 20, 2000, BASF Corporation presented to the NYSDEC a proposal for an integrated site remedy and re-development approach to addressing impacted soil and groundwater at the site. The proposal is based on a cooperative effort between Besicorp-Empire Development Corporation and BASF, and is based on the following concepts:

- Site re-development becomes part of the remedial solution; and
- Site re-development provides for an accelerated timeframe for remediation of the site.

Based on a review of the RI and Supplemental RI results, a significant portion of soil beneath the Main Plant area is impacted by metals, VOCs and SVOCs. However, most of the impacted soil exists beneath asphalt pavement, existing buildings or demolished building foundations. Therefore, barring intrusive activities, there is a low probability of direct human contact with impacted soil under the current site configuration.

Groundwater beneath the Main Plant and lagoon areas is impacted by leaching of adsorbed constituents from impacted soil. Transport of dissolved constituents in groundwater present the only identified route of constituent migration.

The goal of remedial action at the Site is to use control and isolation technologies to mitigate the mobility of compounds of concern in groundwater and to minimize future risk of human contact with impacted soil. The key components of the conceptual remedial action approach are:

- Covering and capping of impacted soil to prevent direct contact and reduce infiltration of precipitation in areas not currently covered by buildings, foundations or asphalt;
- Installation of a perimeter groundwater containment system with pumping of groundwater at locations where off-site migration of dissolved constituents is occurring; and
- Installation of a treatment system to address dissolved metals, VOCs and SVOCs in the water pumped by the perimeter containment system.

The benefit of the integrated site remedy and re-development approach to addressing impacted soil and groundwater is that future Site development will enhance the isolation and containment technologies:

- The re-development proposal by Besicorp includes the emplacement of two or more feet of clean fill over most of the Main Plant area to raise the base elevation above the 100-year floodplain;
- A newsprint recycling facility would be constructed on top of the fill, and over most of the impacted soil beneath the Main Plant area; and
- Where necessary, a subsurface venting system will be placed in the clean fill to capture and treat VOCs that may migrate upward in soil gas from beneath the capped areas into occupied buildings.

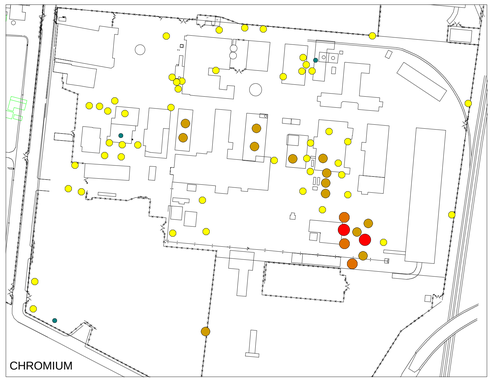
8.1 Proposed Additional Investigation in Support of the Remedial Action

Roux Associates recommends the following additional investigation tasks be performed to provide data to be used in support of the proposed remedial action:

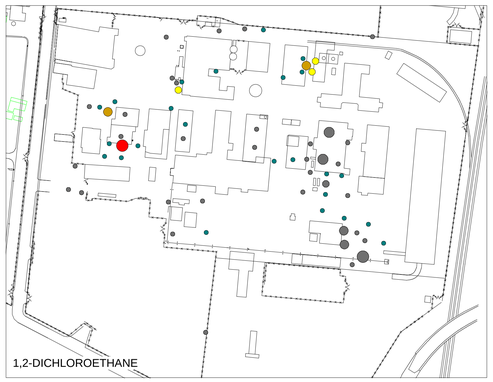
- Sewer Investigation – an investigation of the sewers and sewer bedding as potential conduits for migration of dissolved constituents in groundwater should be performed along the northern border of the Main Plant area (i.e., in the vicinity of the perforated pipe) and along the southern border of the Main Plant area parking lot (i.e., in the vicinity of the municipal sewers).
- Delineation of Impacted Soil in the Lagoon Area – a Geoprobe™ investigation of the source of high concentrations of dissolved arsenic in groundwater in the lagoon areas should be performed.
- Groundwater Quality Assessment and Hydraulic Testing for the Perimeter Containment System – Groundwater pumping tests should be performed at select areas where the perimeter containment system installation is proposed. The pumping tests may be performed in either new or existing wells, or in new or existing horizontal perforated pipe. Groundwater samples should be obtained during pumping tests to provide analytical data for groundwater treatment system design evaluation.

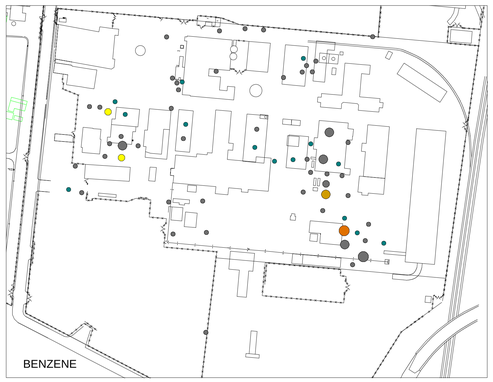
ATTACHMENT F

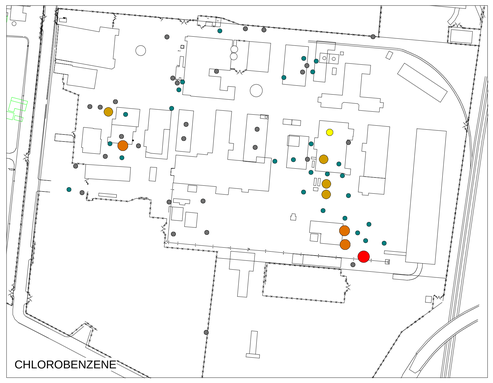
METALS

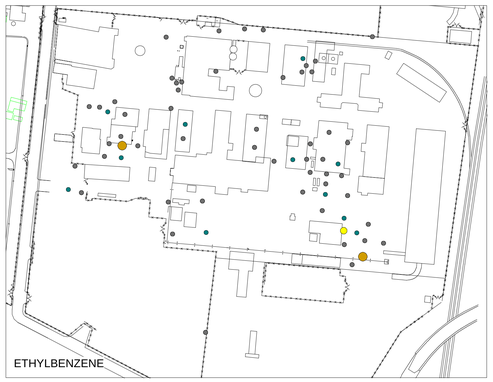


VOCs

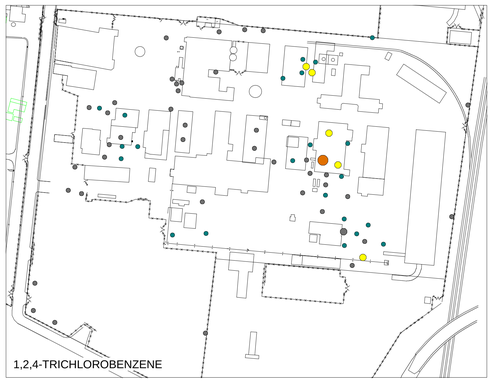


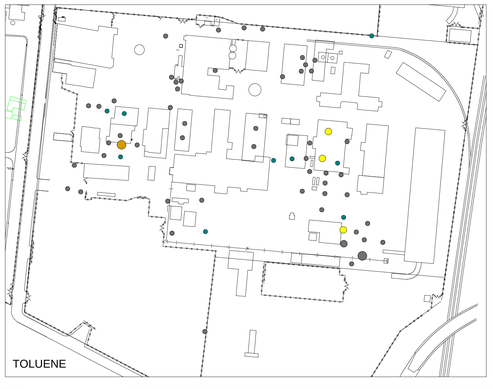


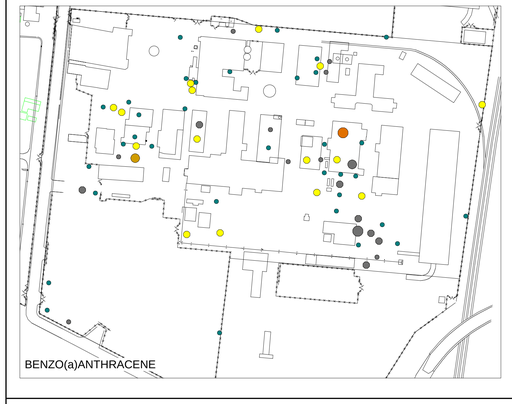


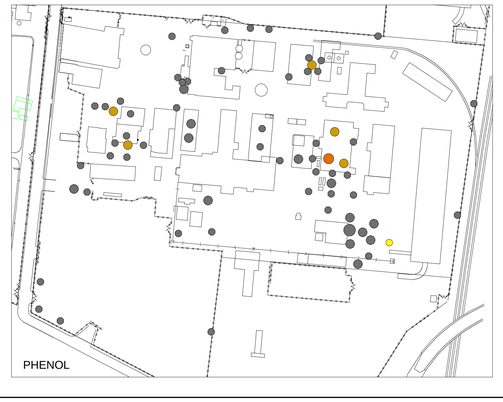


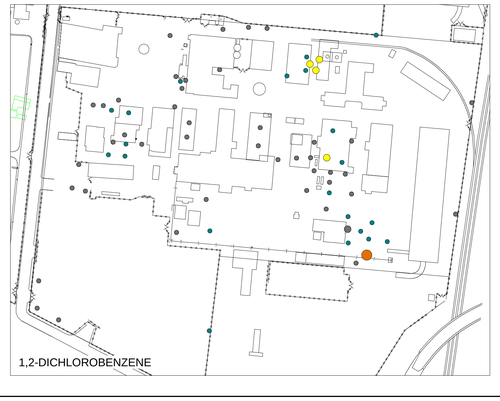
SVOCs

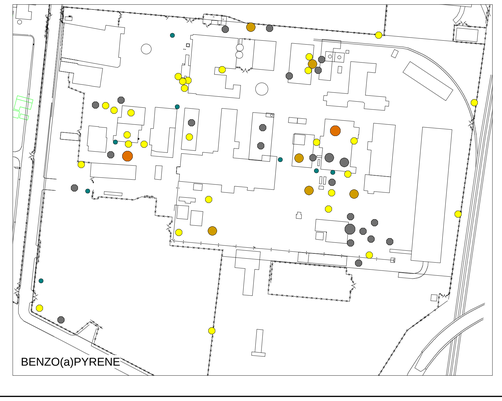


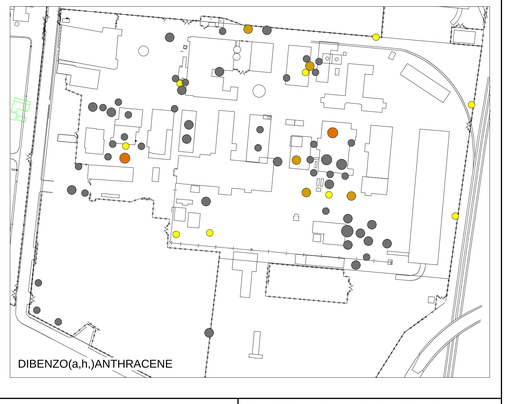












SOIL CONCENTRATIONS RELATIVE TO NYS RSCOs
(ug/kg)

- GREATER THAN 1,000 TIMES NYS RSCOs
- 100 TO LESS THAN 1,000 TIMES NYS RSCOs
- 10 TO LESS THAN 100 TIMES NYS RSCOs
- 1 TO LESS THAN THAN 10 TIMES NYS RSCOs
- LESS THAN NYS RSCOs
- NOT DETECTED AT CONCENTRATIONS GREATER THAN 1,000 TIMES NYS RSCOs
- NOT DETECTED AT CONCENTRATIONS 100 TO LESS THAN 1,000 TIMES NYS RSCOs
- NOT DETECTED AT CONCENTRATIONS 10 TO LESS THAN 100 TIMES NYS RSCOs
- NOT DETECTED AT CONCENTRATIONS 1 TO LESS THAN THAN 10 TIMES NYS RSCOs
- NOT DETECTED AT CONCENTRATIONS LESS THAN NYS RSCOs

NYS RSCOs : NEW YORK STATE RECOMMENDED SOIL CLEANUP OBJECTIVES

N

Title: COMPOUNDS OF CONCERN DETECTED IN SOIL RELATIVE TO NYS RSCOs

RENSSELAER, NEW YORK FACILITY

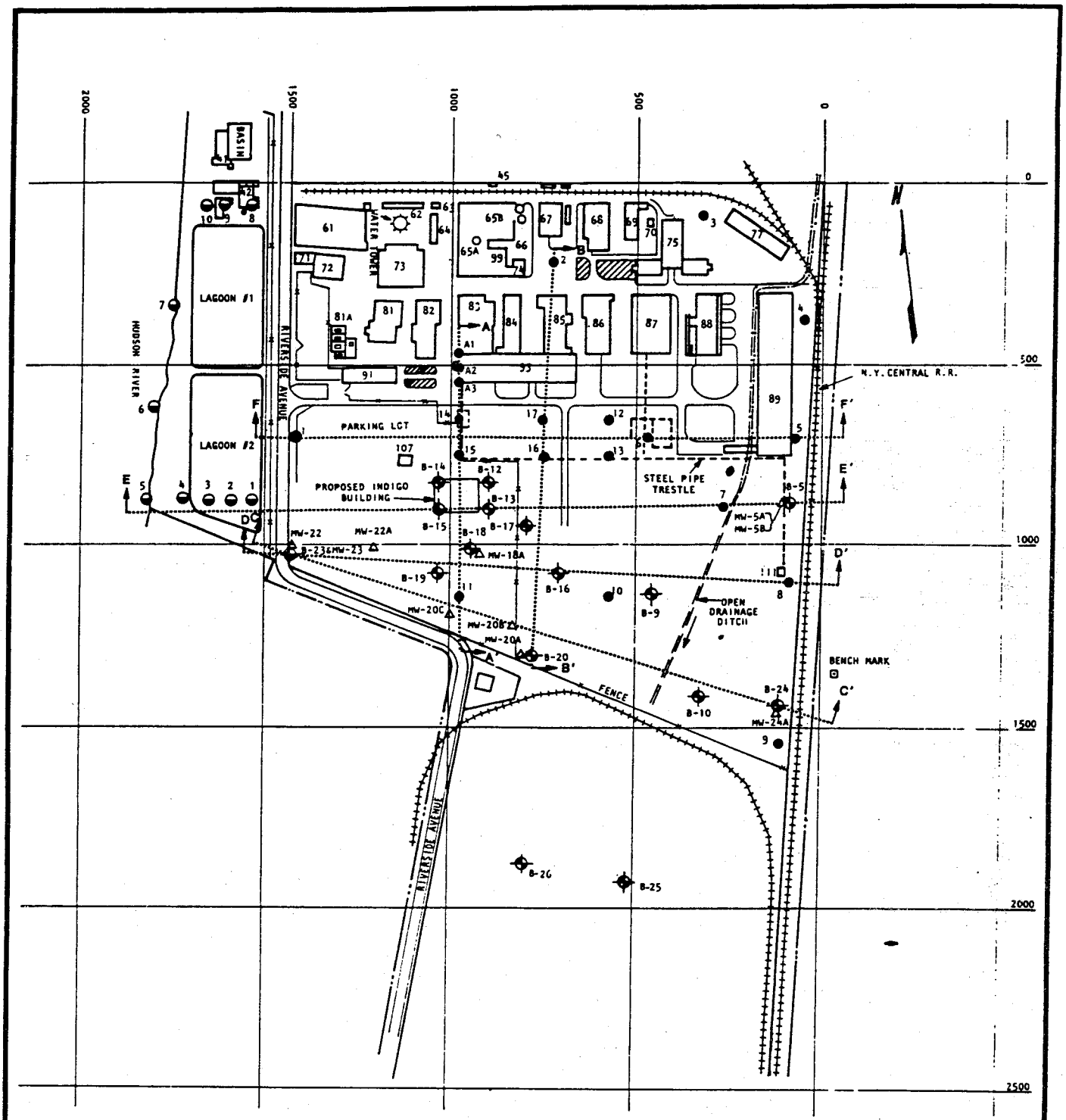
Prepared For:
BASF CORPORATION
MOUNT OLIVE, NEW JERSEY

ROUX ASSOCIATES INC
Environmental Consulting & Management

Compiled by: S.S.	Date: 3/1/01
Prepared by: S.S.	Scale: 1" = 200'
Project Mgr: N.E.	Office: NY
File No: BF1114101	Project: 25111Y04

PLATE 8 (REVISED)

ATTACHMENT G



PLOT PLAN

200 0 200 400

SCALE IN FEET

LEGEND:

F F' SECTIONS SHOWN ON PLATES 4A THROUGH 4F

BORINGS DRILLED FOR THIS INVESTIGATION

BORINGS DRILLED IN 1929

MONITORING WELLS

BENCH MARK, MILE POST NY 141, ELEVATION 21.19 (MSL)

BORINGS DRILLED IN 1973 BY D&M FOR THE GAF CORPORATION

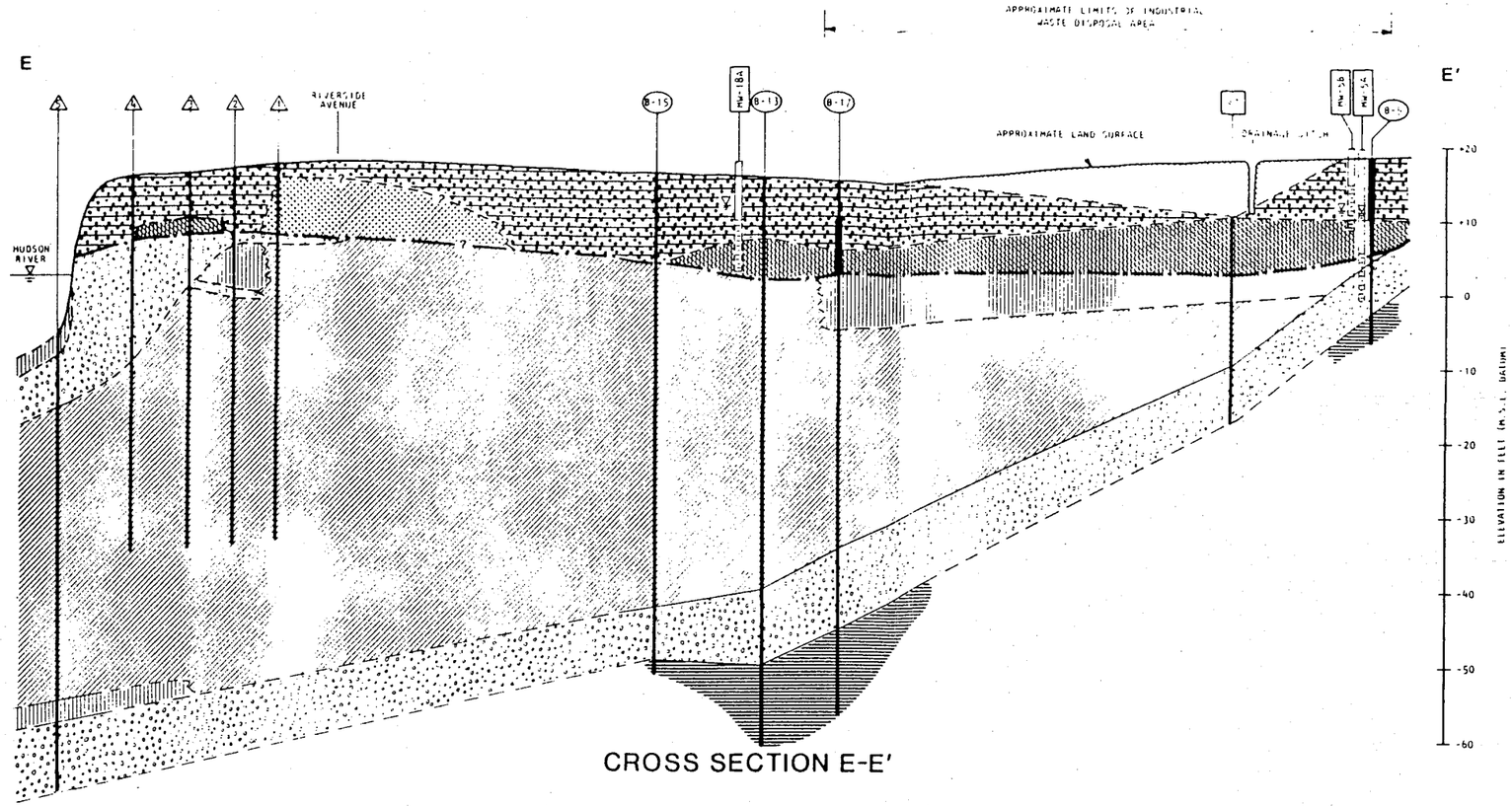
OPEN DRAINAGE DITCH

CITY OF RENSSELAER UNDERGROUND STORM SEWER PIPE DISCHARGING INTO OPEN DRAINAGE DITCH

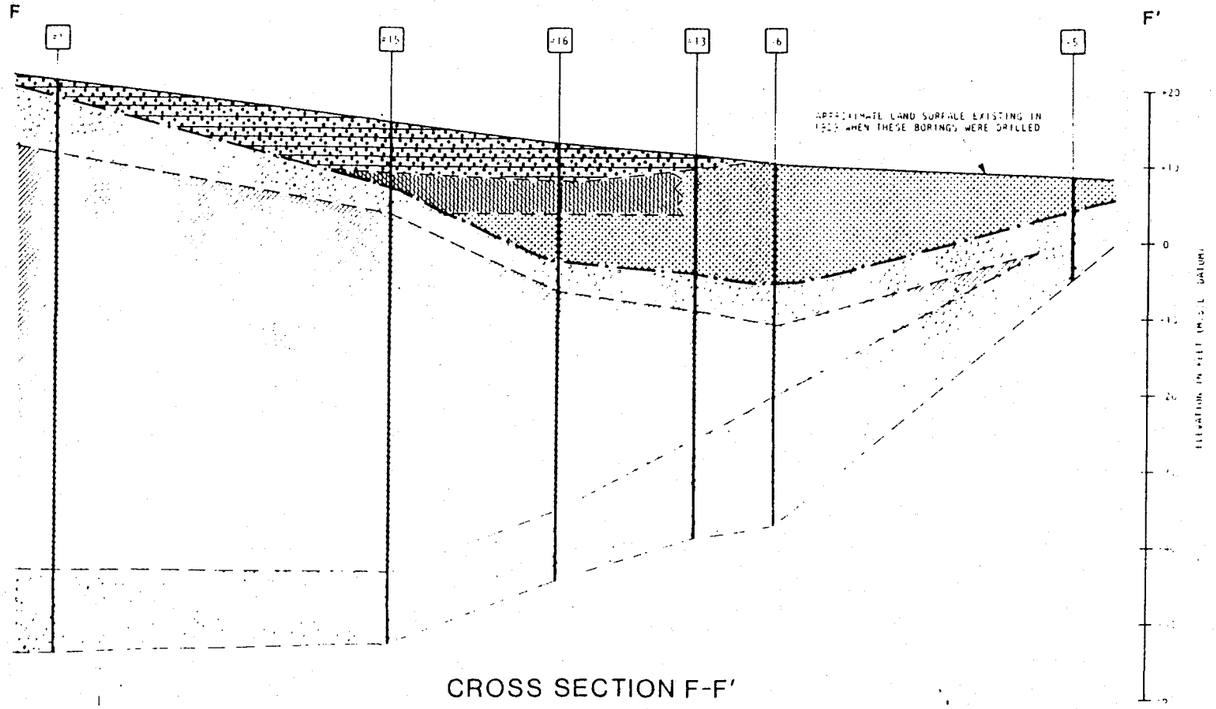
REFERENCE:
DRAWING NO. 1-10672-A, PLANT MAP, PREPARED 11/5/68 FOR GENERAL ANILINE & FILM CORPORATION

DAMES & MOORE

CROSS SECTIONS E-E' AND F-F'



CROSS SECTION E-E'



CROSS SECTION F-F'

100 0 100 200 FEET

HORIZONTAL SCALE

LEGEND:

- SAND, WITH SILT OR CLAY (FILL)
- CLAYEY SILT (FILL)
- SILTY CLAY (FILL)
- CINDER AND BRICK (FILL)
- ESTIMATED LOWER BOUNDARY OF FILL MATERIAL
- SAND, WITH SILT, LOOSE TO MEDIUM DENSE (NATURAL SOIL)
- CLAYEY SILT, MEDIUM STIFF TO STIFF, (NATURAL SOIL) OCCASIONAL SOFT ZONES
- SILTY CLAY, SOFT TO MEDIUM STIFF (NATURAL SOIL)
- SAND AND GRAVEL, WITH SILT, CONTAINS CLAY IN PLACES (NATURAL SOIL)
- SHALE BEDROCK
- UNDEFINED FILL SOIL
- CHEMICAL WASTE OR BLACK, OARK GRAY OR PURPLE, CONTAMINATED SOIL ENCOUNTERED IN THE BORING
- (B-5) BORINGS DRILLED FOR THIS INVESTIGATION BY DAMES & MOORE
- (#5) BORINGS DRILLED IN 1929 BY OTHERS
- BORINGS DRILLED BY DAMES & MOORE FOR THE GAF CORPORATION IN 1973
- (MW-2) MONITORING WELLS INSTALLED FOR HYDROGEOLOGICAL INVESTIGATION BY DAMES & MOORE
- PIEZOMETRIC WATER LEVEL OBSERVED IN THE MONITORING WELLS ON 10/21/78

NOTES:

1. THE SUBSURFACE SECTIONS SHOWN REPRESENT OUR EVALUATION OF THE MOST PROBABLE CONDITIONS BASED UPON INTERPRETATION OF BORINGS DRILLED FOR THIS INVESTIGATION, BORINGS DRILLED BY DAMES & MOORE ONSITE IN 1973 FOR THE GAF CORPORATION, AND PREVIOUS BORINGS DRILLED BY OTHERS IN 1929 AND PROVIDED TO US ON "DRAWING NO. D3004, BORING TESTS, FOR GENERAL ANILINE WORKS." SOME VARIATIONS FROM THESE CONDITIONS MUST BE EXPECTED.
2. THE ELEVATION 17.0 SHOWN ON DRAWING NO. D3004 MENTIONED IN (1) ABOVE WAS ASSUMED EQUIVALENT TO ELEVATION 16.3 (MSL)
3. READING OF THE TEXT OF THIS REPORT IS NECESSARY FOR A PROPER UNDERSTANDING OF THE NATURE OF THE SUBSURFACE MATERIAL

DAMES & MOORE

APPENDIX B

Soil Boring and Well Construction Logs

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

1377 Motor Parkway
Islandia, New York 11749
Telephone: 631-232-2600
Fax: 631-232-9898

SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
LG-SB-100	959243.44	656647.55		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		36 Riverside Drive		
APPROVED BY	LOGGED BY			
R. Tweeddale	R. Tweeddale	Rensselaer, New York		
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	/ Geoprobe	2" Macro-Core	2/27/01-2/27/01
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	(Feet BLS)	Cuttings		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown coarse to fine SAND with Silt, little Gravel; dry		2.2	
		Brown coarse to fine SAND and SILT, little Gravel; dry		3.2	
		Brown coarse to fine SAND and SILT, little Gravel; dry		4.2	
5					5
		Brown coarse to fine SAND and SILT, little Gravel; dry		11.8	
		Brown coarse to fine SAND and SILT, little Gravel; dry		3.8	
10					10
		Brown coarse to fine SAND and SILT, little Gravel; dry		6	

Bottom of boring 12 feet below land surface.

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

1377 Motor Parkway
Islandia, New York 11749
Telephone: 631-232-2600
Fax: 631-232-9898

SOIL BORING LOG

WELL NO.	NORTHING	EASTING
LG-SB-101	959165.08	656632.5

PROJECT NO./NAME	LOCATION
25111Y04 / BASF	36 Riverside Drive

APPROVED BY	LOGGED BY	
R. Tweeddale	R. Tweeddale	Rensselaer, New York

DRILLING CONTRACTOR/DRILLER	GEOGRAPHIC AREA
/ Chris Osman	

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	/ Geoprobe	2" Macro-Core	2/27/01-2/27/01

LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL
(FT.)	(Feet BLS)	Cuttings

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown coarse to fine SAND, with Silt, some Gravel; dry		1.5	
		Brown fine to medium SAND, little Silt; dry		176	
		Brown fine to coarse SAND, little Silt; dry		789	
5		Brown fine to coarse SAND, little Silt and gravel, trace brick; dry		>2000	5
		Brown fine to coarse SAND, little Silt and Gravel, trace brick; dry		1583	
10		Brown fine to coarse SAND, little Silt and gravel, trace brick; moist		44.9	10
		Bottom of boring 12 feet below land surface.			

BORING/WELL 25111Y04.GPJ_ROUX.GDT 8/3/01

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

1377 Motor Parkway
Islandia, New York 11749
Telephone: 631-232-2600
Fax: 631-232-9898

SOIL BORING LOG

WELL NO.	NORTHING	EASTING
LG-SB-102	959092.47	656618.45

PROJECT NO./NAME	LOCATION
25111Y04 / BASF	36 Riverside Drive

APPROVED BY	LOGGED BY	
R. Tweeddale	R. Tweeddale	Rensselaer, New York

DRILLING CONTRACTOR/DRILLER	GEOGRAPHIC AREA
/ Chris Osman	

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	/ Geoprobe	2" Macro-Core	2/26/01-2/26/01

LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL
(FT.)	(Feet BLS)	Cuttings

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown fine to coarse SAND with Silt, little gravel; wet		1.4	
		Brown fine to coarse SAND and SILT, little gravel; dry		800	
		Brown fine to coarse SAND and SILT, little Gravel, little Fill; dry		595	
5					5
		Brown fine to medium SAND, little Silt; dry		153	
		Brown fine to medium SAND, little Silt; dry		1.5	
10					10
		Brown fine to medium SAND, little Silt; dry		1.5	
					Bottom of boing is 12 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

1377 Motor Parkway
Islandia, New York 11749
Telephone: 631-232-2600
Fax: 631-232-9898

SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
LG-SB-103	958997.08	656600.11		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		36 Riverside Drive		
APPROVED BY	LOGGED BY			
R. Tweeddale	R. Tweeddale	Rensselaer, New York		
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	/ Geoprobe	2" Macro-Core	2/26/01-2/26/01
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	(Feet BLS)	Cuttings		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown coarse to fine SAND, with Silt, little Clay, little Gravel; dry		1.3	
		Brown coarse to fine SAND, with Silt, little Clay, little Gravel; dry		1.1	
		Brown coarse to fine SAND, little Gravel, little Silt; moist		1.3	
5					5
		Light grey brown fine to medium SAND, little grey Clay; dry		2.4	
		Light grey brown fine to coarse SAND, little grey Clay; dry		1.5	
10					10
		Light brown fine to coarse SAND, little Gravel; moist to wet		2.1	
					Bottom of Boring 12 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
LG-SB-104	958893.65	656582.81		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		36 Riverside Drive		
APPROVED BY	LOGGED BY	Rensselaer, New York		
R. Tweeddale	R. Tweeddale			
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	/ Geoprobe	2" Macro-Core	2/26/01-2/26/01
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	(Feet BLS)	Cuttings		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown to dark grey brown, coarse SAND and GRAVEL, some Silt, little Clay; wet		0.7	
		Brown fine to coarse SAND with Silt, little Gravel; moist		0.5	
		Brown coarse to fine SAND, some Silt, little Gravel; moist to wet		0.5	
5					5
		Brown coarse to fine SAND, some Silt, little Gravel; moist to wet		0.6	
		Brown coarse to fine SAND, some Silt, little Gravel; moist to wet		1.2	
10					10
		Brown coarse to fine SAND, some Silt, little Gravel; moist to wet		1.9	
					Bottom of boring 12 feet below land surface.

▽ GROUND WATER LEVEL 2/26/2001

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO. **LG-SB-105**	NORTHING **958792.88**	EASTING **656566.17**		
PROJECT NO./NAME **25111Y04 / BASF**		LOCATION **36 Riverside Drive**		
APPROVED BY **R. Tweeddale**	LOGGED BY **R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER **/ Chris Osman**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **2-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **2/26/01-2/26/01**
LAND SURFACE ELEVATION **(FT.)**	*DEPTH TO WATER* **(Feet BLS)**	BACKFILL **Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		Brown SILT, little Clay, trace gravel and roots; dry		7	
2		Brown SILT and fine SAND; dry		3.3	Second PID reading for 2-4 interval was 84.5
3					
4		Brown SILT and fine SAND, trace fill; dry to moist		1.6	
5					
6		Brown fine to coarse SAND; moist		>2000	PID readfing may be elevated in 6-8 interval.
7					
8					Bottom of boring is 8 feet below land surface, no recovery below that depth.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
LG-SB-106	958695.43	656550.74		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		36 Riverside Drive		
APPROVED BY	LOGGED BY	Rensselaer, New York		
R. Tweeddale	R. Tweeddale			
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	/ Geoprobe	2" Macro-Core	2/26/01-2/26/01
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	(Feet BLS)	Cuttings		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		Brown fine SAND, some Silt, little Clay; moist		1.3	
2		Brown fine SAND, little Silt; dry		1	
3					
4		Brown to grey brown, fine to coarse SAND, trace brick, trace wood that has hydrocarbon odor and hydrocarbon staining; moist to wet		1.6	
5					
6		Brown fine to coarse SAND, some Silt, trace brick; dry		1.5	
7					
8		Brown fine to coarse SAND, little Silt, little clay; dry		1.5	
9					
10		Brown fine to coarse SAND, little Silt, little clay; wet		1.6	
11					
12					Bottom of boring 12 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
LG-SB-107	958595.51	656537.99		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		36 Riverside Drive		
APPROVED BY	LOGGED BY	Rensselaer, New York		
R. Tweeddale	R. Tweeddale			
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	/ Geoprobe	2" Macro-Core	2/26/01-2/26/01
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	(Feet BLS)	Cuttings		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		Brown SILT and fine SAND, trace gravel; dry		2.8	
2		Brown SILT and fine SAND, trace gravel; moist		0.4	
3					
4		Brown coarse to fine SAND, some Silt; dry to moist		0.6	
5					
6		Brown fine SAND, trace silt and clay; moist		0	
7					
8		Dark brown fine to coarse SAND, little Brick fragments, little Silt; moist		0	
9					
10		Dark brown fine to coarse SAND, little Silt; moist to wet		1.2	
11					
12					Bottom of boring is 12 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
LG-SB-108	958497.89	656524.89		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		36 Riverside Drive		
APPROVED BY	LOGGED BY	Rensselaer, New York		
R. Tweeddale	R. Tweeddale			
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	/ Geoprobe	2" Macro-Core	2/21/01-2/21/01
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	(Feet BLS)	Cuttings		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Dark bown to grey brown fine SAND and SILT; moist		1889	LG-SB-108 is set in grassy area.
		Dark brown to grey brown SAND and SILT, trace fill material; dry to moist		>2000	
		Dark brown to grey brown SAND and SILT, trace fill material; dry to moist		>2000	
5		Dark brown to grey brown SILT and fine SAND, trace gravel; dry		1344	5
		Dark brown fine SAND, trace dark grey clay; dry		>2000	
10		Dark brown fine SAND, trace dark grey clay; dry		790	10

▽ GROUND WATER LEVEL 2/21/2001

Refusal at 12 feet below land surface, solid preprobe used to breakup material, but could not advance macro sampler. Bottom of boring 12 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO. **LG-SB-109**	NORTHING **958399.45**	EASTING **656509.6**		
PROJECT NO./NAME **25111Y04 / BASF**		LOCATION **36 Riverside Drive**		
APPROVED BY **R. Tweeddale**	LOGGED BY **R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER **/ Chris Osman**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **2-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **2/21/01-2/21/01**
LAND SURFACE ELEVATION **(FT.)**	DEPTH TO WATER **(Feet BLS)**	BACKFILL **Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown to dark brown SILT and coarse SAND, little Gravel and organic matter; moist		3.5	LG-SB-109 set in grassy area.
		Brown SAND and SILT, little Brick and Ash (fill); dry to moist		323	
		Brown fine SAND, little Silt, trace dark grey clay; dry		1002	
5					5
		Brown fine SAND, little Silt, trace dark grey clay; dry		1264	
		Brown fine SAND, little Silt, trace dark grey clay; dry		585	
10					10
		Brown fine SAND, little Silt, trace dark grey clay; dry		689	
		Brown fine SAND, little Silt, trace dark grey clay; dry		878	
	▽	GROUND WATER LEVEL 2/21/2001			Bottom of boring is 14 feet below land surface (bls).

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO. **LG-SB-110**	NORTHING **958297.89**	EASTING **656499.37**		
PROJECT NO./NAME **25111Y04 / BASF**		LOCATION **36 Riverside Drive**		
APPROVED BY **R. Tweeddale**	LOGGED BY **R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER **/ Chris Osman**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **2-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **2/21/01-2/21/01**
LAND SURFACE ELEVATION **(FT.)**	DEPTH TO WATER **(Feet BLS)**	BACKFILL **Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown SAND and SILT, little Clay, little Organic Matter (roots, etc); dry to moist.		2.1	LG-SB-110 set in grassy area
		Brown Sand and SILT, little Brick and Ash (fill); dry to moist.		83.3	
		Brown fine SAND, little Silt, trace dark grey clay; dry		37.5	
5					5
		Brown fine SAND, little Silt, trace dark grey clay; dry		136	
		Brown fine SAND, little Silt, trace dark grey clay; dry		83.3	
10					10
		Brown fine SAND, little Silt, trace dark grey clay; dry		75.5	
		Brown fine SAND, little Silt, trace dark grey clay; dry		88.4	
					Bottom of boring is 14 feet below land surface (bls).

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
LG-SB-111	958191.44	656470.52		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		36 Riverside Drive		
APPROVED BY	LOGGED BY	Rensselaer, New York		
R. Tweeddale	R. Tweeddale			
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	/ Geoprobe	2" Macro-Core	2/26/01-2/26/01
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	(Feet BLS)	Cuttings		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown fine to coarse SAND and SILT, little Gravel, trace clay; wet		45.8	
		Brown fine to coarse SAND and SILT, little Gravel, trace clay; moist		1	
		Brown fine to coarse SAND, some Silt, little Fill; moist		3.3	
5					5
		Brown fine SAND, little Silt; dry		8.6	
		Brown fine SAND, little Silt; dry		1.5	
10					10
		Brown fine SAND, little Silt; moist to wet		3.6	

▽ GROUND WATER LEVEL 2/26/2001

Bottom of boring is 12 feet below land surface (bls).

Guaged LG-PZ-1, Groundwater level at 13.91 feet bls.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
LG-SB-112	958131.46	656585.9		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		36 Riverside Drive		
APPROVED BY	LOGGED BY	Rensselaer, New York		
R. Tweeddale	R. Tweeddale			
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	/ Geoprobe	2" Macro-Core	2/23/01-2/23/01
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	(Feet BLS)	Cuttings		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown coarse SAND with Silt, some fine Sand; dry		1.8	
		Brown coarse SAND with Silt, some fine Sand; dry		28.5	
		Brown SILT and fine to coarse SAND; dry		2.1	
5					5
		Brown SILT and fine to coarse SAND; dry		2.6	
		Brown SILT with coarse Sand, some Clay; moist		1.6	
10					10
		Brown SILT with coarse Sand, some Clay; moist		0.7	
		▽ GROUND WATER LEVEL 2/23/2001			Bottom of boring is 12 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
LG-SB-113	958075.58	656704.52		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		36 Riverside Drive		
APPROVED BY	LOGGED BY	Rensselaer, New York		
R. Tweeddale	R. Tweeddale			
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	/ Geoprobe	2" Macro-Core	2/23/01-2/23/01
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	(Feet BLS)	Cuttings		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown SILT and coarse to fine SAND, some Clay and Gravel; dry		0.8	
		Brown coarse to fine SAND, some Silt, trace gravel; dry		0.4	
5		Brown to light brown CLAY with Silt, trace roots; dry		0.1	5
		Brown to light brown CLAT with Silt, trace roots, trace streaks of purple; dry		1.1	
		Brown to light brown CLAY with Silt, trace roots, trace streaks of purple color; dry		9.6	
10		Brown to light brown CLAY with Silt, trace roots, trace streaks of purple color; dry		11.9	10

▽ GROUND WATER LEVEL 2/23/2001

Guaged Well LG-MW-4.
Ground water level is 11.76 bls.
Bottom of boring is 12 feet below land surface (bls).

BORING/WELL 25111Y04.GPJ, ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO. **LG-SB-114**	NORTHING **958167.13**	EASTING **656735.67**		
PROJECT NO./NAME **25111Y04 / BASF**		LOCATION **36 Riverside Drive**		
APPROVED BY **R. Tweeddale**	LOGGED BY **R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER **/ Chris Osman**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **2-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **2/22/01-2/22/01**
LAND SURFACE ELEVATION **(FT.)**	DEPTH TO WATER **(Feet BLS)**	BACKFILL **Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown coarse to fine SAND and SILT, with Gravel; dry		9.1	
		Brown SILT and coarse to fine SAND; dry		8.2	
		Brown SILT and coarse to fine SAND; dry		9.7	
5					5
		Light brown CLAY, little Silt; moist		13.9	
		Brown SILT and coarse to fine SAND, some Clay; wet at 10 feet bls		13.2	
10	▽ GROUND WATER LEVEL 2/22/2001				10

Bottom of boring 10 feet below land surface (bls), wet around 10 feet bls.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
LG-SB-115	**958268.29**	***656746.9***		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		**36 Riverside Drive**		
APPROVED BY	LOGGED BY	**Rensselaer, New York**		
R. Tweeddale	**R. Tweeddale**			
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	**2-inches**	**/ Geoprobe**	**2" Macro-Core**	**2/22/01-2/22/01**
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	**(Feet BLS)**	**Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown coarse to fine SAND and SILT with Gravel; dry		7.6	
		Light brown SILT, some Clay; dry		14.3	
5		Light brown CLAY, some Silt; dry		10	5
		Light brown CLAY, some Silt; dry		16.4	
		Light brown CLAY, some Silt and Gravel; wet		18.9	
10					10

▽ GROUND WATER LEVEL 2/22/2001

Bottom of boring 10 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO. **LG-SB-116**	NORTHING **958365.58**	EASTING **656757.64**		
PROJECT NO./NAME **25111Y04 / BASF**		LOCATION **36 Riverside Drive**		
APPROVED BY **R. Tweeddale**	LOGGED BY **R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER **/ Chris Osman**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **2-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **2/22/01-2/22/01**
LAND SURFACE ELEVATION **(FT.)**	DEPTH TO WATER **(Feet BLS)**	BACKFILL **Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown to dark brown coarse to fine SAND, some Silt and Gravel; dry		39.7	
		Brown fine SAND; dry		48.8	
5		Brown SILT and coarse to fine SAND, some brown to light brown Clay; dry to moist		9.8	5
		Brown SILT with coarse to fine SAND, some Gravel, little Fill Material; dry		41.3	
10 ▽ GROUND WATER LEVEL 2/22/2001		Dark brown coarse to fine SAND and GRAVEL with Fill material		9.7	Consistant contact with rock must move probe. 10 Guaged LG-PZ-14 Groundwater level 9.94 feet bls. Bottom of boring 10 feet below land surface (bls).

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
LG-SB-117	958462.88	656770.31		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		36 Riverside Drive		
APPROVED BY	LOGGED BY	Rensselaer, New York		
R. Tweeddale	R. Tweeddale			
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	/ Geoprobe	2" Macro-Core	2/22/01-2/22/01
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	(Feet BLS)	Cuttings		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown coarse to fine SAND and SILT, little Gravel; wet		5.3	
		Brown fine SAND and SILT, trace clay; dry		5.6	
		Brown fine SAND and SILT; dry		4.6	
5					5
		Brown coarse to fine SAND, trace silt and clay; moist		3	
		Brown SILT and CLAY, some coarse Sand; wet		7.3	
10					10
		Brown SILT and CLAY, some coarse Sand; wet		4.4	
		Brown SILT and coarse to fine SAND; moist		5.4	
	▽ GROUND WATER LEVEL 2/22/2001				

Bottom of boring is 14 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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Islandia, New York 11749
Telephone: 631-232-2600
Fax: 631-232-9898

SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
LG-SB-118	958561.09	656784.19		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		36 Riverside Drive		
APPROVED BY	LOGGED BY	Rensselaer, New York		
R. Tweeddale	R. Tweeddale			
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	/ Geoprobe	2" Macro-Core	2/22/01-2/22/01
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	(Feet BLS)	Cuttings		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0		Brown coarse to fine SAND and SILT, with Gravel; dry		9.7	
2		Brown SILT, with coarse to fine Sand, some brown Clay with reddish Clay, little Gravel; dry to moist		15.5	
4		Brown SILT with light brown Clay, little coarse Sand; dry		11.03	
6		Brown to dark brown CLAY; dry		9.9	
8		Brown to dark brown CLAY; dry		12	
10		Brown to dark brown CLAY with coarse to fine Sand ; dry		301	
12					Bottom of boring 12 feet bls.

Soil wet at 12.5 feet below land surface (bls).

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO. **LG-SB-119**	NORTHING **958611.55**	EASTING **656785.41**		
PROJECT NO./NAME **25111Y04 / BASF**		LOCATION **36 Riverside Drive**		
APPROVED BY **R. Tweeddale**	LOGGED BY **R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER **/ Chris Osman**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **2-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **2/22/01-2/22/01**
LAND SURFACE ELEVATION **(FT.)**	DEPTH TO WATER **(Feet BLS)**	BACKFILL **Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Dark brown coarse to fine SAND with Silt, little Gravel; moist		9	
		Dark brown Silt with fine SAND, little Clay; dry		9.3	
		Dark brown CLAY with Silt; dry		9.4	
5					5
		Dark brown CLAY with Silt; moist		12.5	
		Dark brown SILT with Clay; moist		14.4	
10					10
		Brown SILT and coarse to fine Sand, some Gravel and Pottery (fill); moist		7.3	
		Brown SILT and coarse to fine SAND, some Gravel and Pottery (fill), little Clay; wet		8.5	
	▽ GROUND WATER LEVEL 2/22/2001				
					Bottom of boring is 14 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO. **LG-SB-120**	NORTHING **958665.24**	EASTING **656792.37**		
PROJECT NO./NAME **25111Y04 / BASF**		LOCATION **36 Riverside Drive**		
APPROVED BY **R. Tweeddale**	LOGGED BY **R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER **/ Chris Osman**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **2-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **2/22/01-2/22/01**
LAND SURFACE ELEVATION **(FT.)**	DEPTH TO WATER **(Feet BLS)**	BACKFILL **Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown coarse to fine SAND and SILT, some Gravel; moist		9.4	
		Brown coarse to fine SAND and SILT, some Gravel, little Brick and Fill Material, some Clay; moist		16.8	
5		Brown Clay and Silt; dry		10.9	5
		Brown Clay and Silt; dry		21.6	
		Brown to dark brown SILT and fine SAND, trace gravel; dry		12.6	
10		Brown fine SAND, some brown Clay; dry		10.5	10
		Brown to dark brown, coarse to fine SAND and SILT, some Brick and Gravel, trace purple color		10.9	

▽ GROUND WATER LEVEL 2/22/2001

Bottom of boring 14 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
LG-SB-121	958709.27	656798.97		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		36 Riverside Drive		
APPROVED BY	LOGGED BY			
R. Tweeddale	R. Tweeddale	Rensselaer, New York		
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	/ Geoprobe	2" Macro-Core	2/22/01-2/22/01
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	(Feet BLS)	Cuttings		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		Brown SILT and fine to coarse SAND; dry to moist		9	
2		Brown SILT and fine to coarse SAND; dry to moist		8.9	
3					
4		Brown SILT and fine to coarse SAND; dry to moist		9.3	
5					
6		Brown SILT and fine to coarse SAND; moist to wet		14.4	
7					
8		Brown fine SAND, little Silt; dry		9.6	
9					
10		Brown fine SAND; dry		9.6	
11					
12					Bottom of boring 12 feet below land surface (bls).

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
LG-SB-122	**958760.59**	**656804.6**		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		**36 Riverside Drive**		
APPROVED BY	LOGGED BY	**Rensselaer, New York**		
R. Tweeddale	**R. Tweeddale**			
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	**2-inches**	**/ Geoprobe**	**2" Macro-Core**	**2/22/01-2/22/01**
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	**(Feet BLS)**	**Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown SILT and Sand, some Gravel; dry to moist		7.3	
		Brown SILT and fine Sand, little Gravel; dry to moist		7.4	
		Brown fine SAND, little Silt, trace gravel; dry		53.7	
5					5
		Brown fine SAND, little Silt, trace gravel; dry		13.8	
		Brown SILT and coarse to fine SAND, little Clay; moist		10.8	
10					10
		Brown to dark brown fine SAND;some brown Clay; wet at 12 feet bls		96.9	

▽ GROUND WATER LEVEL 2/22/2001

Soil saturated at 12 feet below land surface (bls).
Bottom of boring 12 feet bls.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
LG-SB-123	958807.94	656811.1		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		36 Riverside Drive		
APPROVED BY	LOGGED BY	Rensselaer, New York		
R. Tweeddale	R. Tweeddale			
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	/ Geoprobe	2" Macro-Core	2/21/01-2/21/01
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	(Feet BLS)	Cuttings		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Dark brown SILT, with fine to coarse SAND, some Gravel, Roots; dry		8.7	
		Dark brown, possible purple hue to SILT, little fine SAND, trace Clay; dry		6.7	
		Dark brown, possible purple hue to SILT, little fine SAND, trace Clay; dry		10.1	
5					5
		Purple SILT, some dark brown SILT, little Clay; dry		16.5	
		Purple SILT, some dark brown SILT, little Clay, little White Ash; dry		15.6	
10					10
		Purple SILT, some dark brown SILT, little Clay; moist		12.3	
	▽ GROUND WATER LEVEL 2/21/2001				

Bottom of boring 12 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
LG-SB-124	958862.51	656812.61		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		36 Riverside Drive		
APPROVED BY	LOGGED BY	Rensselaer, New York		
R. Tweeddale	R. Tweeddale			
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	/ Geoprobe	2" Macro-Core	2/21/01-2/21/01
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	(Feet BLS)	Cuttings		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Dark Brown SILT, with fine to coarse Sand, some Gravel, Roots; dry		4.1	
		Dark brown, possible purple hue to SILT, little fine Sand, trace clay; dry		4.6	
		Dark brown, possible purple hue to SILT, little fine Sand, trace clay; dry		12.7	Hard for geoprobe to break through as with LG-SB-125.
5		Purple SILT, some dark brown SILT, little Clay; dry		739	5
		Purple SILT, some dark brown SILT, little Clay, little White Ash; dry		1360	
10		Purple SILT, some dark brown SILT, little Clay, little White Ash; moist		1237	10
	▽ GROUND WATER LEVEL 2/21/2001				Bottom of boring is 12 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO. **LG-SB-125**	NORTHING **958913.27**	EASTING **656818.84**		
PROJECT NO./NAME **25111Y04 / BASF**		LOCATION **36 Riverside Drive**		
APPROVED BY **R. Tweeddale**	LOGGED BY **R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER **/ Chris Osman**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **2-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **2/21/01-2/21/01**
LAND SURFACE ELEVATION **(FT.)**	DEPTH TO WATER **(Feet BLS)**	BACKFILL **Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Dark Brown SAND, with Silt and Gravel, little Organics; moist		1340	Guage: LG-PZ-11 Depth to water was 11.84 feet below land surface.
		Dark brown SILT and SAND, some Gravel, trace ash; dry		>2000	
		Brown SILT with Sand, some Gravel, trace ceramic material; dry		1981	
5		Fine SILT, some Sand, purple color; dry		1722	Hit refusal, moved boring 1 foot west.
		No Recovery		–	
10		No Recovery		–	
		Purple to dark purple coarse SAND, little Silt; dry		634	
					Bottom of boring 14 feet below land surface.

▽ GROUND WATER LEVEL 2/21/2001

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO. **LG-SB-126**	NORTHING **958960.62**	EASTING **656825.01**		
PROJECT NO./NAME **25111Y04 / BASF**		LOCATION **36 Riverside Drive**		
APPROVED BY **R. Tweeddale**	LOGGED BY **R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER **/ Chris Osman**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **2-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **3/1/01-3/1/01**
LAND SURFACE ELEVATION **(FT.)**	DEPTH TO WATER **(Feet BLS)**	BACKFILL **Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		Brown fine to Coarse SAND with Silt, little gravel; dry		0.7	LG-SB-126 set in Asphalt.
2		Brown fine to coarse SAND, with Silt, little Gravel, little Clay; moist		1.2	
3					
4		Brown fine to coarse SAND, with Silt, little Gravel, little Clay; moist		1.5	
5					
6		Brown fine to coarse SAND, with Silt, little Gravel, little Clay, some Fill Material (cinders); moist		1.4	
7					
8		Brown fine to coarse SAND, with Silt, little Gravel, little Clay, some Fill Material (cinders); moist		0.6	
9					
10		Light Brown CLAY; water logged		0.6	
11					
12	▽ GROUND WATER LEVEL 3/1/2001				Bottom of boring 12 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
LG-SB-127	959012.17	656831.5		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		36 Riverside Drive		
APPROVED BY	LOGGED BY	Rensselaer, New York		
R. Tweeddale	R. Tweeddale			
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	/ Geoprobe	2" Macro-Core	3/2/01-3/2/01
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	(Feet BLS)	Cuttings		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown SILT and coarse to fine SAND, some Gravel; dry		2.1	LG-SB-127 set in asphalt.
		Brown fine to medium SAND, trace clay and gravel; moist		5.3	
		Brown fine to medium SAND, trace clay; dry to moist		4	
5					5
		Brown fine to medium SAND, trace clay, trace gravel and brick, trace Purple Stained material at 8 feet bls; dry to moist		3.4	
		Brown SILT and fine SAND, with light brown Clay; dry		1.5	
10					10
		Light brown Clay; moist		2	
		Light brown CLAY with purple streaks; moist		1.3	

GROUND WATER LEVEL 3/2/2001

Bottom of boring 14 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO. **LG-SB-128**	NORTHING **959108.84**	EASTING **656837**		
PROJECT NO./NAME **25111Y04 / BASF**		LOCATION **36 Riverside Drive**		
APPROVED BY **R. Tweeddale**	LOGGED BY **R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER **/ Chris Osman**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **2-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **3/2/01-3/2/01**
LAND SURFACE ELEVATION **(FT.)**	DEPTH TO WATER **(Feet BLS)**	BACKFILL **Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown SILT and fine SAND, some coarse Sand, trace roots; dry		8	
		Brown SILT and fine SAND, trace gravel; dry		3.6	
5		Brown SILT and fine SAND, trace gravel; dry		3	5
		Brown fine to coarse SAND with Silt; moist		2.8	
		Brown fine to coarse SAND with Silt; moist		0.9	
10		No Recovery			10 Not enough recovery from 10-12 Interval for PID or Lithology, but a sample was taken.

Bottom of boring 12 feet below land surface

BORING/WELL 25111Y04.GPJ, ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
LG-SB-129	**959209.68**	**656846.12**		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		**36 Riverside Drive**		
APPROVED BY	LOGGED BY	**Rensselaer, New York**		
R. Tweeddale	**R. Tweeddale**			
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	**2-inches**	**/ Geoprobe**	**2" Macro-Core**	**3/2/01-3/2/01**
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	**(Feet BLS)**	**Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown SILT with fine to coarse Sand, little Clay, trace roots; dry		2.3	
		Brown SILT with fine to coarse Sand, little Clay and Gravel, trace roots and dark brown silt; dry		12.4	
5		Brown fine to coarse SAND, little Gravel; dry		6.6	5
		Brown fine to coarse SAND, trace gravel; dry		4.8	
		Brown fine to coarse SAND, trace gravel; dry		6.8	
10		Brown fine to coarse SAND, trace gravel; moist		5.6	10
		Brown fine to coarse SAND, trace gravel; moist to wet		10.8	

▽ GROUND WATER LEVEL 3/2/2001

Bottom of boring 14 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING
LG-SB-130	958967.15	656775.64

PROJECT NO./NAME	LOCATION
25111Y04 / BASF	36 Riverside Drive

APPROVED BY	LOGGED BY	
R. Tweeddale	R. Tweeddale	Rensselaer, New York

DRILLING CONTRACTOR/DRILLER	GEOGRAPHIC AREA
/ Chris Osman	

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	/ Geoprobe	2" Macro-Core	3/1/01-3/1/01

LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL
(FT.)	(Feet BLS)	Cuttings

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		Brown coarse to fine SAND with Gravel, some Silt; dry		1.4	
2					
3		Brown fine to medium SAND, little Gravel; dry		9	
4					
5		Brown fine to medium SAND, little Gravel; dry		1.8	
6					
7		Brown fine to medium SAND, little Gravel, trace brick; dry		1.8	
8					
9		Dark brown coarse to fine SAND, little Gravel, trace fill material (cinders); dry		5.4	
10					
11		Brown fine to coarse SAND, trace gravel; moist to wet		1	
12					Bottom of boring 12 feet below land surface.

▽ GROUND WATER LEVEL 3/1/2001

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO. **LG-SB-131**	NORTHING **958966.5**	EASTING **656685.84**		
PROJECT NO./NAME **25111Y04 / BASF**		LOCATION **36 Riverside Drive**		
APPROVED BY **R. Tweeddale**	LOGGED BY **R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER **/ Chris Osman**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **2-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **3/1/01-3/1/01**
LAND SURFACE ELEVATION **(FT.)**	DEPTH TO WATER **(Feet BLS)**	BACKFILL **Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		Brown coarse to fine SAND, some Silt, little gravel; dry		4	
2		Brown coarse to fine SAND, some Silt, little gravel; dry		1.9	
3		Brown coarse to fine SAND, some Silt, little gravel; dry		5.1	
4		Brown coarse to fine SAND, some Silt, little Gravel; dry		1.9	
5		Brown coarse to fine SAND; dry		1.8	
6		Fine to medium SAND, trace gravel; dry		3.3	
7					
8					
9					
10					
11					
12					Bottom of boring 12 feet below land surface.

BORING/WELL 25111Y04.GPJ.ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO. **LG-SB-132**	NORTHING **958972.6**	EASTING **656639.78**		
PROJECT NO./NAME **25111Y04 / BASF**		LOCATION **36 Riverside Drive**		
APPROVED BY **R. Tweeddale**	LOGGED BY **R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER **/ Chris Osman**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **2-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **3/1/01-3/1/01**
LAND SURFACE ELEVATION **(FT.)**	DEPTH TO WATER **(Feet BLS)**	BACKFILL **Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		Brown coarse to fine SAND, some Silt, little Gravel; dry		2.2	
2		Brown coarse to fine SAND, some Silt, little Gravel; dry		0.9	
3					
4		Brown coarse to fine SAND, some Silt, little Gravel; dry		1.9	
5					
6		Brown coarse to fine SAND, some Silt, little Gravel; dry		1.1	
7					
8		Brown coarse to fine SAND; dry		1.5	
9					
10		Fine to medium SAND, trace gravel; dry		1	
11					
12					Bottom of boring 12 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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Environmental Consulting & Management

1377 Motor Parkway
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Fax: 631-232-9898

SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
LG-SB-133	959103	656668.39		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		36 Riverside Drive		
APPROVED BY	LOGGED BY	Rensselaer, New York		
R. Tweeddale	R. Tweeddale			
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	/ Geoprobe	2" Macro-Core	3/2/01-3/2/01
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	(Feet BLS)	Cuttings		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown SILT and coarse to fine SAND, little Gravel; dry		2.4	LG-SB-133 set in asphalt.
		Brown SILT and coarse to fine SAND, little Gravel; dry		2.1	
5		Brown SILT and coarse to fine SAND, little Gravel; dry		3	5
		Brown coarse to fine SAND with Silt, trace brick and gravel; dry		3.1	
		Brown coarse to fine SAND with Silt; dry to moist		2.9	
10		Brown Coarse to Fine SAND with Silt; moist		2.7	10
					Bottom of boring 12 feet below land surface

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
LG-SB-134	**959095.68**	**656740.03**		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		**36 Riverside Drive**		
APPROVED BY	LOGGED BY	**Rensselaer, New York**		
R. Tweeddale	**R. Tweeddale**			
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	**2-inches**	**/ Geoprobe**	**2" Macro-Core**	**3/16/01-3/16/01**
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	**(Feet BLS)**	**Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		Brown coarse to fine SAND and Silt, some Gravel.		0.2	
2		Brown fine to coarse SAND, some Silt, trace gravel; moist		0.8	
3					
4		Brown fine SAND, some brown Clay and Silt, trace brick; moist to wet		0.6	
5					
6		Light brown CLAY, some Silt and fine Sand		0.5	
7					
8		Brown to dark brown fine SAND and Silt, some Clay, trace gravel; wet.		0.4	
9		Brown to dark brown fine SAND and SILT, some Clay; wet			
10		Brown fine SAND: wet		0.4	
11		Dark brown fine to coarse SAND, some Gravel and dark brown Silty Clay; wet			
12					

▽ GROUND WATER LEVEL 3/16/2001

Bottom of soil boring at 12 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO. **LG-SB-135**	NORTHING **959094.24**	EASTING **656803.11**		
PROJECT NO./NAME **25111Y04 / BASF**		LOCATION **36 Riverside Drive**		
APPROVED BY **R. Tweeddale**	LOGGED BY **R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER **/ Chris Osman**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **2-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **3/2/01-3/2/01**
LAND SURFACE ELEVATION **(FT.)**	DEPTH TO WATER **(Feet BLS)**	BACKFILL ***Cuttings***		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown fine SAND and SILT, little coarse Sand, little Gravel, trace clay; moist		1.9	
		Brown fine SAND and SILT, little coarse Sand, little Gravel, trace clay; moist		2.4	
5		Brown Fine SAND, some Silt, trace brick and clay; dry		2.4	5
		Brown fine SAND, some Silt, trace brick, clay and cinders; dry		4.6	
		Brown fine to medium SAND, little Silt; dry		1.9	
10		Brown fine to medium SAND, little Silt; moist		4	10
		Brown fine SAND and SILT, little Gravel; moist to wet		12.1	

▽ GROUND WATER LEVEL 3/2/2001

Wet at 14 feet below land surface (bls). Bottom of boring 14 feet bls.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING
MP-SB-60	**958158.79**	**657978.01**

PROJECT NO./NAME	LOCATION
25111Y04 / BASF	**36 Riverside Drive**

APPROVED BY	LOGGED BY	
R. Tweeddale	**R. Tweeddale**	**Rensselaer, New York**

DRILLING CONTRACTOR/DRILLER	GEOGRAPHIC AREA
/ Chris Osman	

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	**2-inches**	**/ Geoprobe**	**2" Macro-Core**	**2/27/01-2/27/01**

LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL
(FT.)	**(Feet BLS)**	**Cuttings**

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		ASPHALT and ROAD BEDDING, brown Silt, some fine Sand, trace gravel; dry		11.2	Boring set in paved area.
2		Brown SILT with coarse to fine Sand, little Brick; dry		2.5	
3					
4		Dark Brown SILT with coarse to fine Sand, purple staining; wet		2.8	
5					
6		Heavy stained SILT and SAND with Brick			Guaged MP-PZ-114 Groundwater leval at 6.31 feet below land surface (bls).
7					
8					Bottom of boring is 8 feet bls.

▽ GROUND WATER LEVEL 2/27/2001

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
MP-SB-61	**958212.48**	**657995.9**		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		**36 Riverside Drive**		
APPROVED BY	LOGGED BY	**Rensselaer, New York**		
R. Tweeddale	**R. Tweeddale**			
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	**2-inches**	**/ Geoprobe**	**2" Macro-Core**	**2/27/01-2/27/01**
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	**(Feet BLS)**	**Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		ASPHALT and ROAD BEDDING, some brown Silt and fine Sand and Gravel; dry		11.7	Boring set in paved area.
2		Brown SILT with coarse to fine Sand, little brick; dry		6	
3					
4		Dark brown SILT with coarse to fine Sand, purple staining; wet		1609	
5					
6					Bottom of boring 6 feet below land surface.

▽ GROUND WATER LEVEL 2/27/2001

BORING/WELL 25111Y04.GPJ, ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
MP-SB-62	**958220.55**	**657827.29**		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		**36 Riverside Drive**		
APPROVED BY	LOGGED BY			
R. Tweeddale	**R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	**2-inches**	**/ Geoprobe**	**2" Macro-Core**	**2/27/01-2/27/01**
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	**(Feet BLS)**	**Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		ASPHALT and ROAD BEDDING, some brown Silt and fine Sand and Gravel; dry		1.6	Boring set in paved area.
2		Brown SILT with coarse to fine Sand, little Brick, trace blue and green gravel; sulfur odor, dry		2.1	Little sample available in 2-4 interval.
3					
4		Dark brown SILT with coarse to fine Sand, purple staining; wet		45.5	
5					
6					Bottom of boring 6 feet below land surface.

▽ GROUND WATER LEVEL 2/27/2001

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO. **MP-SB-63**	NORTHING **958233.58**	EASTING **657740.42**		
PROJECT NO./NAME **25111Y04 / BASF**		LOCATION **36 Riverside Drive**		
APPROVED BY **R. Tweeddale**	LOGGED BY **R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER **/ Chris Osman**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **2-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **2/27/01-2/27/01**
LAND SURFACE ELEVATION **(FT.)**	DEPTH TO WATER **(Feet BLS)**	BACKFILL **Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		ASPHALT and ROAD BEDDING, some brown Silt and fine Sand and Gravel; dry		5.7	Boring set in paved area.
2		Brown SILT, with coarse to fine Sand, little Brick, trace blue and green gravel; sulfur odor, wet		1730	
3	▽ GROUND WATER LEVEL 2/27/2001				MP-SB-63 guaged with M-Scope Groundwater level at 3 feet below land surface (bls).
4					Bottom of boring 4 feet bls.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO. **MP-SB-64**	NORTHING **958300.84**	EASTING **657724.45**		
PROJECT NO./NAME **25111Y04 / BASF**		LOCATION **36 Riverside Drive**		
APPROVED BY **R. Tweeddale**	LOGGED BY **R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER **/ Chris Osman**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **2-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **2/27/01-2/27/01**
LAND SURFACE ELEVATION **(FT.)**	DEPTH TO WATER **(Feet BLS)**	BACKFILL **Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		ASPHALT and ROAD BEDDING, some brown Silt and fine Sand and Gravel; dry		222	Boring set in paved area.
2					Bottom of boring 2 feet below land surface.

GROUND WATER LEVEL 2/27/2001

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
MP-SB-65	**958747.76**	**657535.87**		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		**36 Riverside Drive**		
APPROVED BY	LOGGED BY	**Rensselaer, New York**		
R. Tweeddale	**R. Tweeddale**			
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	**2-inches**	**/ Geoprobe**	**2" Macro-Core**	**3/12/01-3/12/01**
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	**(Feet BLS)**	**Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		Dark grey fine to coarse SAND and CRUSHED STONE, some dark grey Silt; dry		13.3	Boring set in paved area.
2		Dark grey fine SAND and SILT, some Cynders and Ash; dry		1.1	
3					
4					
5		Dark grey fine SAND and SILT, some Cynders and Ash; dry		0.8	
6					
7		Dark grey fine SAND and SILT, some Cynders and Ash; wet at 8 feet		0.9	
8					
9		Dark grey fine SAND and SILT, some Cynders and Ash; wet			
10					
11		Grey CLAY; dry			
12					Bottom of boring 12 feet below land surface.

▽ GROUND WATER LEVEL 3/12/2001

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
MP-SB-66	**958716.23**	**657191.07**		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		**36 Riverside Drive**		
APPROVED BY	LOGGED BY	**Rensselaer, New York**		
R. Tweeddale	**R. Tweeddale**			
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	**2-inches**	**/ Geoprobe**	**2" Macro-Core**	**3/12/01-3/12/01**
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	**(Feet BLS)**	**Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		Brown fine to medium SAND, trace dark brown sand, trace gravel; dry		1.3	Boring Set in Asphalt area.
2					
3		Brown fine to medium SAND, trace dark brown sand, trace gravel, purple staining; dry		1.1	Hit refusal twice, moved 8 feet toward water tower.
4					
5		*Brown fine to medium SAND, trace dark brown sand, trace gravel, purple staining; moist*		1.1	
6					Bottom of boring 6 feet below land surface.

▽ GROUND WATER LEVEL 3/12/2001

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING
MP-SB-67	**958786.35**	**657086.42**

PROJECT NO./NAME	LOCATION
25111Y04 / BASF	**36 Riverside Drive**

APPROVED BY	LOGGED BY	
R. Tweeddale	**R. Tweeddale**	**Rensselaer, New York**

DRILLING CONTRACTOR/DRILLER	GEOGRAPHIC AREA
/ Chris Osman	

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	**2-inches**	**/ Geoprobe**	**2" Macro-Core**	**3/12/01-3/12/01**

LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL
(FT.)	**(Feet BLS)**	**Cuttings**

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		Brown to dark brown SILT with fine to coarse Sand, some purple stained sand and silt, little brick; dry		not taken	Boring set in paved area.
2		Brown SILT, some fine Sand, little brick, little gravel; moist		not taken	
3					
4					

Bottom of boring 4 feet below land surface (bls)

GROUND WATER LEVEL 3/12/2001

Guaged boring with M-Scope
Water at 4.63 feet bls.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO. **MP-SB-68**	NORTHING **958867.17**	EASTING **657118.11**		
PROJECT NO./NAME **25111Y04 / BASF**		LOCATION **36 Riverside Drive**		
APPROVED BY **R. Tweeddale**	LOGGED BY **R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER **/ Chris Osman**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **2-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **3/12/01-3/12/01**
LAND SURFACE ELEVATION **(FT.)**	DEPTH TO WATER **(Feet BLS)**	BACKFILL **Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0		Dark brown GRAVEL and SAND, trace cynders; dry		0.8	Boring set in paved area.
2		Brown to light grey, fine to coarse SAND, with Silt; dry		0.7	
4					Bottom of boring 4 feet below land surface.

▽ GROUND WATER LEVEL 3/12/2001

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING
MP-SB-69	**958852.34**	**657238.49**

PROJECT NO./NAME	LOCATION
25111Y04 / BASF	**36 Riverside Drive**

APPROVED BY	LOGGED BY	
R. Tweeddale	**R. Tweeddale**	**Rensselaer, New York**

DRILLING CONTRACTOR/DRILLER	GEOGRAPHIC AREA
/ Chris Osman	

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	**2-inches**	**/ Geoprobe**	**2" Macro-Core**	**3/12/01-3/12/01**

LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL
(FT.)	**(Feet BLS)**	**Cuttings**

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0		Brown SILT and fine SAND, some Gravel, trace brick, trace turquoise stone fragments; moist		1.7	Boring set in gravel area.
1					1
2		Brown to light brown fine SAND, trace gravel; dry		1.5	2
3					3
4		Brown to light brown fine SAND, trace gravel; dry		1.3	4
5					5
6					6

Bottom of boring 6 feet below land surface.

▽ GROUND WATER LEVEL 3/12/2001

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
MP-SB-70	**958873.08**	**657173.32**		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		**36 Riverside Drive**		
APPROVED BY	LOGGED BY	**Rensselaer, New York**		
R. Tweeddale	**R. Tweeddale**			
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	**2-inches**	**/ Geoprobe**	**2" Macro-Core**	**3/12/01-3/12/01**
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	**(Feet BLS)**	**Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		ASPHALT AND CRUSHED STONE		1.6	Boring set in paved area.
1		Dark brown coarse to fine SAND, Some Silt, Some Gravel, little Cinders and Ash, trace brick; moist			1
2					2
3		Dark brown SILT with coarse to fine Sand, little Cinders and Ash, trace brick, trace purple staining; moist		1.3	3
4					4
5		Brown coarse to fine SAND and SILT, some Clay and Gravel; moist to wet		1.4	5
6					6
					Bottom of boring 6 feet below land surface

▽ GROUND WATER LEVEL 3/12/2001

BORING/WELL 25111Y04.GPJ, ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING
MP-SB-71	**958930.96**	**657123.96**

PROJECT NO./NAME	LOCATION
25111Y04 / BASF	**36 Riverside Drive**

APPROVED BY	LOGGED BY	
R. Tweeddale	**R. Tweeddale**	**Rensselaer, New York**

DRILLING CONTRACTOR/DRILLER	GEOGRAPHIC AREA
/ Chris Osman	

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	**2-inches**	**/ Geoprobe**	**2" Macro-Core**	**3/12/01-3/12/01**

LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL
(FT.)	**(Feet BLS)**	**Cuttings**

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		ASPHALT AND CRUSHED STONE		1.7	Boring set in Asphalt area around BASF Water tower.
1		*Dark brown coarse to fine SAND, some Silt and Gravel, little Cinders and Ash, trace brick; moist*			1
2					2
		Dark brown SILT with coarse to fine Sand, little Cinders and Ash, trace brick, trace purple staining; moist		1.3	
3					3
4					4
		Brown coarse to fine SAND and SILT, some Clay and Gravel; moist to wet		1.7	
5					5
6					6

Bottom of boring 6 feet below land surface.

▽ GROUND WATER LEVEL 3/12/2001

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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1377 Motor Parkway
Islandia, New York 11749
Telephone: 631-232-2600
Fax: 631-232-9898

SOIL BORING LOG

WELL NO.	NORTHING	EASTING
MP-SB-72	958985.17	657157.16

PROJECT NO./NAME	LOCATION
25111Y04 / BASF	36 Riverside Drive

APPROVED BY	LOGGED BY	
R. Tweeddale	R. Tweeddale	Rensselaer, New York

DRILLING CONTRACTOR/DRILLER	GEOGRAPHIC AREA
/ Chris Osman	

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	/ Geoprobe	2" Macro-Core	3/14/01-3/14/01

LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL
(FT.)	(Feet BLS)	Cuttings

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1–2		Dark brown coarse SAND with Gravel, some Silt, trace clay; moist		0.6	Moved boring location 10 feet east of original location due to refusal at shallow depth.
2–4		Coarse SAND with Cinders and Ash, some Silt; moist		2.4	
4–6		Brown to light brown SILT and CLAY, little Gravel and coarse Sand; moist		2.5	
6–8		Brown coarse to fine SAND, some Silt, trace gravel; dry		1.1	
8–10		Brown coarse to fine SAND, some Silt, trace gravel; dry, wet at 10 feet bls.		2.8	

▽ GROUND WATER LEVEL 3/14/2001

Bottom of boring 10 feet below land surface (bls), wet at 10 feet bls.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO. **MP-SB-73**	NORTHING **958981.69**	EASTING **657220.2**		
PROJECT NO./NAME **25111Y04 / BASF**		LOCATION **36 Riverside Drive**		
APPROVED BY **R. Tweeddale**	LOGGED BY **R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER **/ Chris Osman**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **2-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **3/14/01-3/14/01**
LAND SURFACE ELEVATION **(FT.)**	DEPTH TO WATER **(Feet BLS)**	BACKFILL **Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		Dark brown coarse to fine SAND and GRAVEL, some white Ash, Cinders, little Silt; moist		0	
2		Brown SILT and coarse to medium SAND, little Gravel, trace brick, ash and cynders; dry		0	
3					
4		Brown SILT and coarse to medium SAND, little Gravel; moist to wet		1.8	
5					
6		Brown SILT and coarse to medium SAND, little Gravel; wet		2.8	
7					
8		Brown SILT and coarse to medium SAND, little Gravel; wet			
9	▽ GROUND WATER LEVEL 3/14/2001				Guaged MP-SB-73 wet at 8.5 feet below land surface (bls)
10		Dark brown to grey brown SAND and GRAVEL; wet			
11					
12					Bottom of boring 12 feet bls.

BORING/WELL 25111Y04.GPJ 'ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
MP-SB-74	**958970.04**	**657309.45**		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		**36 Riverside Drive**		
APPROVED BY	LOGGED BY	**Rensselaer, New York**		
R. Tweeddale	**R. Tweeddale**			
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	**2-inches**	**/ Geoprobe**	**2" Macro-Core**	**3/14/01-3/14/01**
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	**(Feet BLS)**	**Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		Brown to dark brown SILT and coarse to fine SAND, little Clay, some Gravel, trace ash and cynders; dry		1.2	
2					
3		Dark brown fine SAND and SILT, little Gravel, trace brick and clay; dry		3	
4					
5		Dark brown fine SAND and SILT, little Gravel, trace brick and clay; dry		3.2	
6					
		Dark brown fine SAND and SILT, little Gravel, trace brick and clay; dry		4.2	
7		Dark brown to grey SILT and CLAY; dry			
8					
9		*Dark brown to grey SILT and CLAY, some dark grey Sand and Gravel,* some Silt; dry, wet at 10 feet bls.		5	
10					

▽ GROUND WATER LEVEL 3/14/2001

Bottom of boring 10 feet below land surface (bls) wet at 10 feet bls.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
MP-SB-75	**958320.7**	**657838.36**		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		**36 Riverside Drive**		
APPROVED BY	LOGGED BY	**Rensselaer, New York**		
R. Tweeddale	**R. Tweeddale**			
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	**2-inches**	**/ Geoprobe**	**2" Macro-Core**	**3/14/01-3/14/01**
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	**(Feet BLS)**	**Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		ASPHALT and ROAD BEDDING, with dark brown and dull grey coarse Sand and Gravel, some Silt; moist to wet		2.2	Boring set in asphalt area.
2					
3		Dark brown SILT, some fine Sand, little grey brown Clay, trace purple color; dry		7.2	
4					
5		Flourescent Blue MATERIAL, CLAY like material, some black silty Clay; hydrocarbon odor, wet		20.7	
6					Bottom of boring 6 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
MP-SB-76	**958285.95**	**657892.57**		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		**36 Riverside Drive**		
APPROVED BY	LOGGED BY			
R. Tweeddale	**R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	**2-inches**	**/ Geoprobe**	**2" Macro-Core**	**3/14/01-3/14/01**
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	**(Feet BLS)**	**Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		ASPHALT and ROAD BEDDING, grey fine to coarse Sand, some dark *brown Sand, some grey and dark brown Silt*; dry		0	Boring set in paved area.
2					
3		Purple SILTY MATERIAL; moist		10.6	
4					
5		Puple SILTY MATERIAL; moist, wet at 6 feet bls		9.6	
6	▽ GROUND WATER LEVEL 3/14/2001				Bottom of boring 6 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
MP-SB-77	**958435.67**	**657555.17**		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		**36 Riverside Drive**		
APPROVED BY	LOGGED BY	**Rensselaer, New York**		
R. Tweeddale	**R. Tweeddale**			
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	**2-inches**	**/ Geoprobe**	**2" Macro-Core**	**3/20/01-3/20/01**
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	**(Feet BLS)**	**Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		Dark brown purple SILT and fine SAND, trace coarse sand; moist to wet			
	▽ GROUND WATER LEVEL 3/20/2001				
2		Dark brown to gray coarse to fine SAND, some fine Gravel, trace wood; wet			
3					
4		Dull green CLAY, trace silt and organics			
5					
6					Bottom of boring is 6 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
MP-SB-78	958498.77	657564.99		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		36 Riverside Drive		
APPROVED BY	LOGGED BY	Rensselaer, New York		
R. Tweeddale	R. Tweeddale			
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	/ Geoprobe	2" Macro-Core	3/20/01-3/20/01
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	(Feet BLS)	Cuttings		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		Dark brown to dark purple SAND and Clay, some coarse Sand; moist			
	▽ GROUND WATER LEVEL 3/20/2001				
2		Dark brown fine GRAVEL, some Silt, trace wood; wet			
3					

Bottom of boring is 3 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.: **MP-SB-79**	NORTHING: **958460.02**	EASTING: **657385.69**		
PROJECT NO./NAME: **25111Y04 / BASF**		LOCATION: **36 Riverside Drive**		
APPROVED BY: **R. Tweeddale**	LOGGED BY: **R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER: **/ Chris Osman**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE: **2-in. / Drive Sampler**	BOREHOLE DIAMETER: **2-inches**	DRILLING EQUIPMENT/METHOD: **/ Geoprobe**	SAMPLING METHOD: **2" Macro-Core**	START-FINISH DATE: **3/21/01-3/21/01**
LAND SURFACE ELEVATION: **(FT.)**	DEPTH TO WATER: **(Feet BLS)**	BACKFILL: **Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		Dark purple and brown SAND			
2		Dark gray fine SAND and SILT			
3		Dark brown coarse SAND and GRAVEL; Clay in tip of sampler, Wet			

Bottom of soil boring is 3 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
MP-SB-80	**958522.89**	**657388.83**		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		**36 Riverside Drive**		
APPROVED BY	LOGGED BY	**Rensselaer, New York**		
R. Tweeddale	**R. Tweeddale**			
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	**2-inches**	**/ Geoprobe**	**2" Macro-Core**	**3/21/01-3/21/01**
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	**(Feet BLS)**	**Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		Dark brown and purple SAND			
	▽ GROUND WATER LEVEL 3/21/2001	Dark gray and purple fine SAND; trace coarse gravel, glass and brick; wet			
2		Greenish gray CLAY			
3					

Bottom of soil boring is 3 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
MP-SB-81	**958679.25**	**657457.14**		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		**36 Riverside Drive**		
APPROVED BY	LOGGED BY	**Rensselaer, New York**		
R. Tweeddale	**R. Tweeddale**			
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	**2-inches**	**/ Geoprobe**	**2" Macro-Core**	**3/21/01-3/21/01**
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	**(Feet BLS)**	**Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		SLUDGE			
		Dark gray stained fine SAND; moist to wet			
1 — ▽ GROUND WATER LEVEL 3/21/2001		Dark gray to dark purple fine SAND, trace clay; wet			1
2					2
3					3

Bottom of soil boring is 3 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO. **MP-SB-82**	NORTHING **958619.1**	EASTING **657455.22**		
PROJECT NO./NAME **25111Y04 / BASF**		LOCATION **36 Riverside Drive**		
APPROVED BY **R. Tweeddale**	LOGGED BY **R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER **/ Chris Osman**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **2-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **3/21/01-3/21/01**
LAND SURFACE ELEVATION **(FT.)**	DEPTH TO WATER **(Feet BLS)**	BACKFILL **Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		SLUDGE			
		Dark gray to dark purple fine SAND; wet			
1 — ▽ GROUND WATER LEVEL 3/21/2001		Dark grayish green to dark purple fine SAND; wet			1
2					2
3					3

Bottom of soil boring at 3 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
MP-SB-83	**958564.63**	**657451.32**		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		**36 Riverside Drive**		
APPROVED BY	LOGGED BY	**Rensselaer, New York**		
R. Tweeddale	**R. Tweeddale**			
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	**2-inches**	**/ Geoprobe**	**2" Macro-Core**	**3/21/01-3/21/01**
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	**(Feet BLS)**	**Cuttings**		

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		SLUDGE			
		Dark gray to purple fine SAND, some Gravel; wet			
1 — ▽ GROUND WATER LEVEL 3/21/2001		Dark gray to purple fine SAND; wet			1
2					2
3					3

Bottom of soil boring at 3 feet below land surface.

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SOIL BORING LOG

WELL NO.	NORTHING	EASTING		
MP-SB-115				
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		**36 Riverside Drive**		
APPROVED BY	LOGGED BY	**Rensselaer, New York**		
R. Tweeddale	**M. Roux**			
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
Aquifer Drilling and Testing / Lester Darrow				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
4.25-in. / Tri-Cone	**6-inches**	**CME-75 / Drive and Wash**	**2" Split Spoon**	**4/16/01-4/16/01**
LAND SURFACE ELEVATION	DEPTH TO WATER	BACKFILL		
(FT.)	**(Feet BLS)**			

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown coarse to medium to fine SAND, some Silt, little coarse to fine Gravel; *moist*	10 7 10 9	0.5	
		Brown coarse to medium to fine SAND, some to little Silt, trace fine gravel; *moist*	6 7 7 5	6	MP-SB-115 set in gravelly area.
5	▽ GROUND WATER LEVEL 4/16/2001	Brown coarse to medium to fine SAND, some Silt; wet	1 2 5 6	7	5
		Brown coarse to medium to fine SAND, some Silt, trace fine gravel; wet	3 4 2 4	7.8	
		Brown SILT, little coarse to medium Sand, trace clay; wet	7 22	4.8	
		Brown SILT,trace clay trace fine sand; moist	35 30		
10		Brown SILT, little Clay, trace fine rounded gravel; moist	7 30 50/0.2	4.5	10
		Dark grey SILT, little fine Sand, trace clay (till); moist to wet	41 45 50/0.3	6.3	
		Dark grey SILT, little fine Sand, trace clay; wet	65	3.9	
15		Brown coarse to medium to fine SAND and SILT, trace; clay	18		15
		Dark grey SILT, little fine Sand, trace clay, trace heavily weathered dark grey shale; wet	15 50/0.4		
		Blue-grey rock (shale) (weathered Bedrock); wet	50/0.2		Bedrock encountered at 17.02-feet below land surface.

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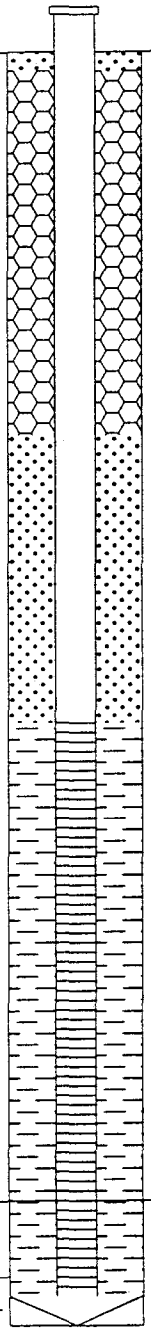
WELL CONSTRUCTION LOG

WELL NO.: **LG-PZ-101**	NORTHING: **959250.4**	EASTING: **656648.09**		
PROJECT NO./NAME: **25111Y04 / BASF**		LOCATION: **36 Riverside Drive**		
APPROVED BY: **R. Tweeddale**	LOGGED BY: **R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER: **/ Chris Osman**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE: **2-in. / Drive Sampler**	BOREHOLE DIAMETER: **2-inches**	DRILLING EQUIPMENT/METHOD: **/ Geoprobe**	SAMPLING METHOD: **2" Macro-Core**	START-FINISH DATE: **3/29/01-3/29/01**
CASING MAT./DIA.: **Stainless Steel / 1.25**	SCREEN: TYPE **Pre-Packed** MAT. **Stainless Steel** TOTAL LENGTH **6.0** DIA. **1.25** SLOT SIZE			
ELEVATION OF: (FT.)	GROUND SURFACE: **16.26**	TOP OF WELL CASING	TOP & BOTTOM SCREEN: **9.3 / 3.3**	GW SURFACE / GRAVEL PACK: **#00**



Depth, feet	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1	Brown coarse to fine SAND, some Gravel, trace tar; dry to moist		11.8	
2	Brown coarse to fine SAND; some Gravel; dry to moist		9.6	
3				
4	Brown to gray coarse to fine SAND; some Gravel; dry to moist		10.3	
5				
6	Brown to gray coarse to fine SAND, some Gravel; dry to moist		10.3	
7				
8	Gray coarse to fine SAND, some Gravel; moist		7.1	
9				
10	Gray coarse to fine SAND, some Gravel; wet		4.9	
11				
12	Gray CLAY			Bottom of soil boring at 12 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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WELL CONSTRUCTION LOG

WELL NO.	NORTHING	EASTING
LG-PZ-102	959190.81	656847.39

PROJECT NO./NAME	LOCATION
25111Y04 / BASF	36 Riverside Drive

APPROVED BY	LOGGED BY	
R. Tweeddale	R. Tweeddale	Rensselaer, New York

DRILLING CONTRACTOR/DRILLER	GEOGRAPHIC AREA
/ Chris Osman	

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	/ Geoprobe	2" Macro-Core	3/28/01-3/28/01

CASING MAT./DIA.	SCREEN:				
Stainless Steel / 1.25	TYPE Pre-Packed	MAT. Stainless Steel	TOTAL LENGTH 6.0	DIA. 1.25	SLOT SIZE

ELEVATION OF:	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GW SURFACE	GRAVEL PACK
(FT.)	20.84		11.4 / 5.4		#00

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		TOPSOIL			
		Brown coarse to fine SAND and SILT, trace gravel and roots; moist			
		Brown coarse to fine SAND, trace silt, gray clay, and gravel; moist			
5		Brown coarse to fine SAND, some Gravel, trace brick; moist to dry			5
		Brown coarse to fine SAND; trace gravel; Moist to dry			
		Brown coarse to fine SAND, trace gravel, trace gray clay; moist to dry			
10		Brown coarse to fine SAND, trace gravel, trace gray clay; moist			10
		Gray brown coarse to fine SAND, some Clay; wet			
15		Gray brown fine SAND and gray CLAY, some Silt, trace gravel and organic matter; wet			15

GROUND WATER LEVEL 3/28/2001

Bottom of soil boring at 16 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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Environmental Consulting & Management

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Fax: 631-232-9898

WELL CONSTRUCTION LOG

WELL NO. **LG-PZ-103**	NORTHING **959076.49**	EASTING **656833.8**		
PROJECT NO./NAME **25111Y04 / BASF**		LOCATION **36 Riverside Drive**		
APPROVED BY **R. Tweeddale**	LOGGED BY **R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER **/ Chris Osman**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **2-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **3/28/01-3/28/01**
CASING MAT./DIA. **Stainless Steel / 1.25**	SCREEN: TYPE **Pre-Packed** MAT. **Stainless Steel** TOTAL LENGTH **6.0** DIA. **1.25** SLOT SIZE			
ELEVATION OF: (FT.) GROUND SURFACE **18.95**	TOP OF WELL CASING	TOP & BOTTOM SCREEN **9.4 / 3.5**	GW SURFACE	GRAVEL PACK **#00**

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown fine to coarse SAND and SILT, trace gravel and crushed stone; moist to wet			
		Brown fine to coarse SAND and SILT, trace gravel and crushed stone; moist to wet			
5					5
		Brown coarse to fine SAND, some Silt, trace clay and gravel; moist			
10		Brown coarse to fine SAND, some Silt, trace clay and gravel; moist to wet			10
		Brown coarse to fine SAND, some Silt, trace clay and gravel; moist to wet			
		Brown fine to coarse SAND, trace silt and gravel; wet			
15					15

GROUND WATER LEVEL 3/28/2001

Bottom of soil boring at 16 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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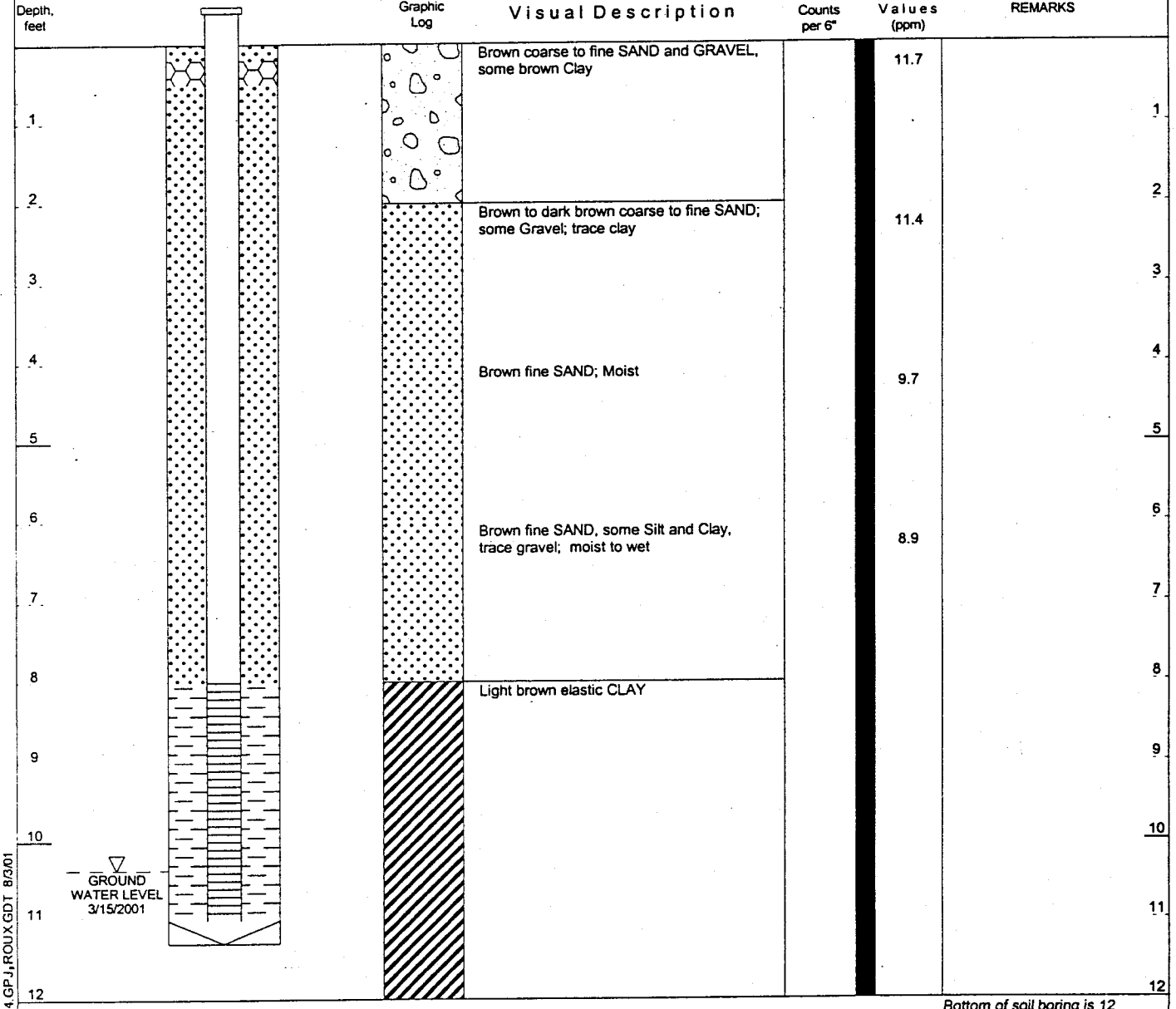
WELL CONSTRUCTION LOG

WELL NO.: **MP-PZ-104**	NORTHING: **959033.7**	EASTING: **656899.49**		
PROJECT NO./NAME: **25111Y04 / BASF**		LOCATION: **36 Riverside Drive**		
APPROVED BY: **R. Tweeddale**	LOGGED BY: **R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER: **/ Chris Osman**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE: **2-in. / Drive Sampler**	BOREHOLE DIAMETER: **2-inches**	DRILLING EQUIPMENT/METHOD: **/ Geoprobe**	SAMPLING METHOD: **2" Macro-Core**	START-FINISH DATE: **3/15/01-3/15/01**
CASING MAT./DIA.: **Stainless Steel / 1.25**	SCREEN: TYPE **Pre-Packed** MAT. **Stainless Steel** TOTAL LENGTH **3.0** DIA. **1.25** SLOT SIZE			
ELEVATION OF: (FT.) GROUND SURFACE: **19.37**	TOP OF WELL CASING	TOP & BOTTOM SCREEN: **11.4 / 8.4**	GW SURFACE	GRAVEL PACK: **#00**



Bottom of soil boring is 12 feet below land surface.

BORING/WELL 25111Y04.GPJ,ROUX.GDT 8/3/01

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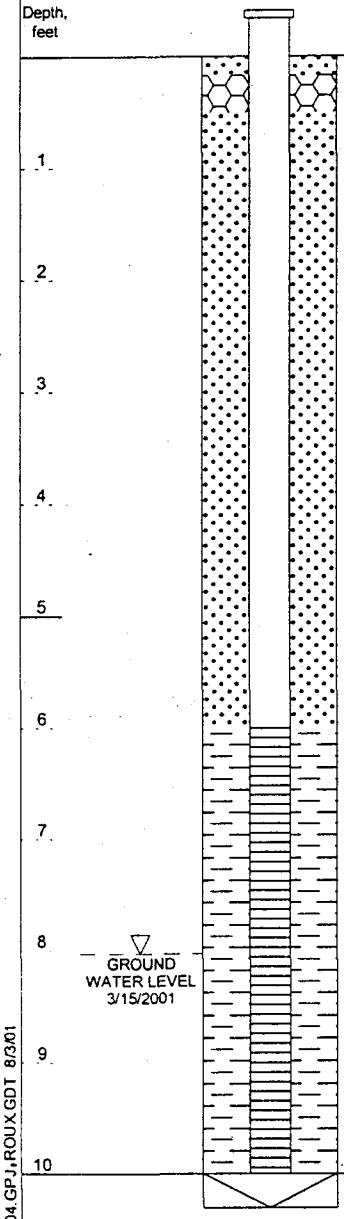
WELL CONSTRUCTION LOG

WELL NO.: **MP-PZ-105**	NORTHING: **959012.9**	EASTING: **657055.1**		
PROJECT NO./NAME: **25111Y04 / BASF**		LOCATION: **36 Riverside Drive**		
APPROVED BY: **R. Tweeddale**	LOGGED BY: **R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER: **/ Chris Osman**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE: **2-in. / Drive Sampler**	BOREHOLE DIAMETER: **2-inches**	DRILLING EQUIPMENT/METHOD: **/ Geoprobe**	SAMPLING METHOD: **2" Macro-Core**	START-FINISH DATE: **3/15/01-3/15/01**
CASING MAT./DIA.: **Stainless Steel / 1.25**	SCREEN: TYPE **Pre-Packed** MAT. **Stainless Steel** TOTAL LENGTH **6.0** DIA. **1.25** SLOT SIZE			
ELEVATION OF: (FT.)	GROUND SURFACE: **17.28**	TOP OF WELL CASING	TOP & BOTTOM SCREEN: **13.3 / 7.3**	GW SURFACE / GRAVEL PACK: **#00**



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1–2		Dark brown fine to coarse SAND, some Silt and Gravel		4.3	
2–4		No recovery in sleeve from 2-4 ft. bls.			
4–6		No recovery in sleeve from 4-6 ft. bls.		2.4	
6–8		Brown fine to coarse SAND, some Clay, trace orange silt and gravel; moist		20.3	
8–10		Brown to light brown elastic CLAY; moist		5.2	

End of soil boring is 10 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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WELL CONSTRUCTION LOG

WELL NO.	NORTHING	EASTING
MP-PZ-106	**959000.59**	**657180.9**

PROJECT NO./NAME	LOCATION
25111Y04 / BASF	**36 Riverside Drive**

APPROVED BY	LOGGED BY	
R. Tweeddale	**R. Tweeddale**	**Rensselaer, New York**

DRILLING CONTRACTOR/DRILLER	GEOGRAPHIC AREA
/ Chris Osman	

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	**2-inches**	**/ Geoprobe**	**2" Macro-Core**	**3/30/01-3/30/01**

CASING MAT./DIA.	SCREEN:				
Stainless Steel / 1.25	TYPE **Pre-Packed**	MAT. **Stainless Steel**	TOTAL LENGTH **5.7**	DIA. **1.25**	SLOT SIZE

ELEVATION OF: (FT.)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GW SURFACE	GRAVEL PACK
	17.13		**11.1 / 5.4**		**#00**

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1–2		Brown to dark brown fine to coarse SAND and GRAVEL, some Silt; dry to moist		14.2	
2–4		Dark brown to brown fine to coarse SAND and GRAVEL and SILT, some Brick and light brown Clay; dry to moist		12.7	
4–6		Black to dark brown fine to coarse SAND and GRAVEL and SILT, some light brown Clay and Silt, trace brick		10.3	
6–8		Black to brown fine to coarse SAND and GRAVEL and SILT, trace brick and light brown clay		10.7	
8–10		Brown fine to coarse SAND and GRAVEL and SILT, some Clay; dry to moist		12	
10–12		Brown fine to coarse SAND and GRAVEL and SILT, little Clay; dry to moist.		11.8	

GROUND WATER LEVEL 3/30/2001

Bottom of soil boring at 12 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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WELL CONSTRUCTION LOG

WELL NO.	NORTHING	EASTING		
MP-PZ-107	**958302.09**	**656815.7**		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		**36 Riverside Drive**		
APPROVED BY	LOGGED BY			
R. Tweeddale	**R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	**2-inches**	**/ Geoprobe**	**2" Macro-Core**	**3/29/01-3/29/01**

CASING MAT./DIA.	SCREEN:					
Stainless Steel / 1.25	TYPE **Pre-Packed**	MAT. **Stainless Steel**	TOTAL LENGTH **6.0**	DIA. **1.25**	SLOT SIZE	
ELEVATION OF:	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GW SURFACE	GRAVEL PACK	
(FT.)	**19.04**		**15.0 / 9.0**		**#00**	

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		Brown and black fine to coarse SAND and GRAVEL, trace brick and silt; dry to moist.		5.1	
2		Brown and black fine to coarse SAND and GRAVEL, trace brick and silt; dry to moist		8.2	
3					
4					
5					
6		Brown to gray fine to coarse SAND and GRAVEL and SILT; moist to wet			
7	▽ GROUND WATER LEVEL 3/29/2001				
8				12	
9		Light brown CLAY; dry to moist			
10				29.5	
11					
12					Bottom of soil boring at 12 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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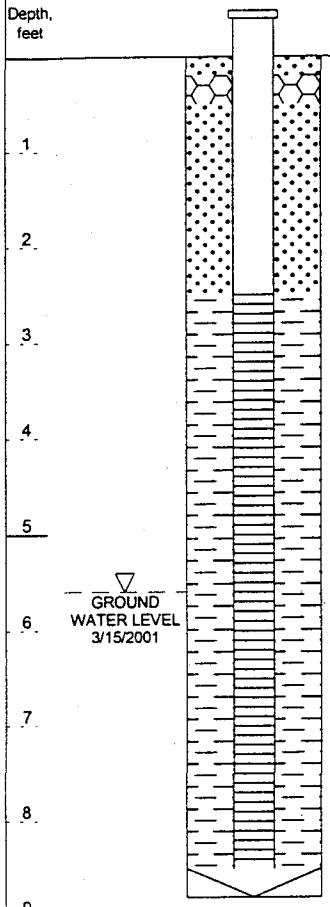
WELL CONSTRUCTION LOG

WELL NO.: **MP-PZ-108**	NORTHING: **958005.1**	EASTING: **656799.3**		
PROJECT NO./NAME: **25111Y04 / BASF**		LOCATION: **36 Riverside Drive**		
APPROVED BY: **R. Tweeddale**	LOGGED BY: **R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER: **/ Chris Osman**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE: **2-in. / Drive Sampler**	BOREHOLE DIAMETER: **2-inches**	DRILLING EQUIPMENT/METHOD: **/ Geoprobe**	SAMPLING METHOD: **2" Macro-Core**	START-FINISH DATE: **3/15/01-3/15/01**
CASING MAT./DIA.: **Stainless Steel / 1.25**	SCREEN: TYPE **Pre-Packed** MAT. **Stainless Steel** TOTAL LENGTH **6.0** DIA. **1.25** SLOT SIZE			
ELEVATION OF: (FT.)	GROUND SURFACE: **18.97**	TOP OF WELL CASING	TOP & BOTTOM SCREEN: **16.5 / 10.5**	GW SURFACE / GRAVEL PACK: **#00**



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1–2		Brown coarse to fine SAND and GRAVEL, some Silt, trace Clay; Moist		1.3	
2–3		Brown medium to fine SAND, some Gravel, some Silt; dry		2.2	
4–5		Brown medium to fine SAND, some Gravel, some Silt; moist to wet		2.9	
6–7		Brown coarse SAND and GRAVEL, some fine to medium Sand, trace silt; we.		0.9	
8–9		Light brown CLAY, some Silt		2	
10–11		Light brown CLAY, some silt		1.5	
12					Bottom of boring is 12 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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WELL CONSTRUCTION LOG

WELL NO.	NORTHING	EASTING
MP-PZ-109	**957849.69**	**657109.1**

PROJECT NO./NAME	LOCATION
25111Y04 / BASF	**36 Riverside Drive**

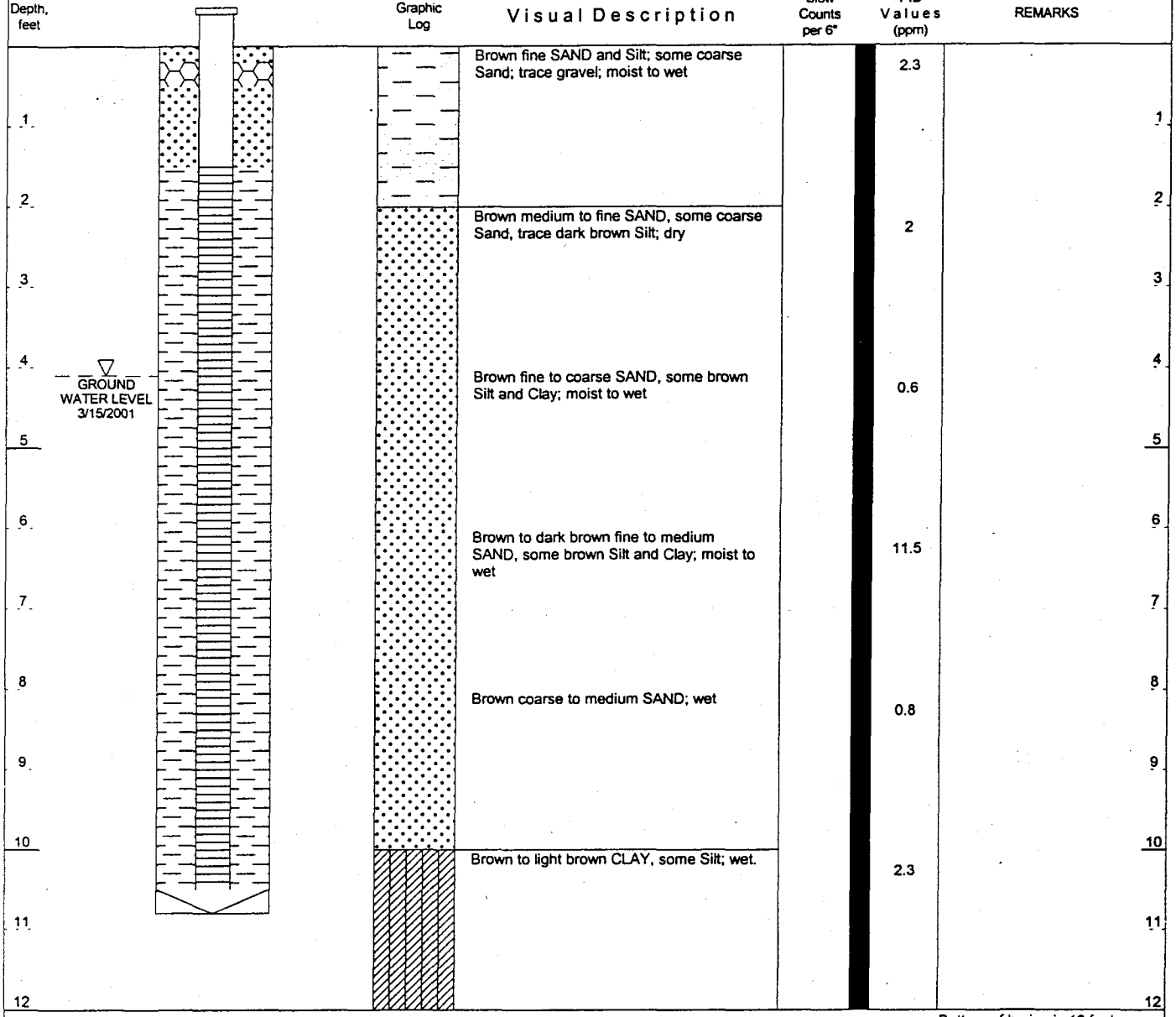
APPROVED BY	LOGGED BY	
R. Tweeddale	**R. Tweeddale**	**Rensselaer, New York**

DRILLING CONTRACTOR/DRILLER	GEOGRAPHIC AREA
/ Chris Osman	

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	**2-inches**	**/ Geoprobe**	**2" Macro-Core**	**3/15/01-3/15/01**

CASING MAT./DIA.	SCREEN:			
Stainless Steel / 1.25	TYPE **Pre-Packed**	MAT. **Stainless Steel**	TOTAL LENGTH **9.0**	DIA. **1.25** SLOT SIZE

ELEVATION OF: (FT.)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GW SURFACE	GRAVEL PACK
	18.20		**16.7 / 7.7**		**#00**



Bottom of boring is 12 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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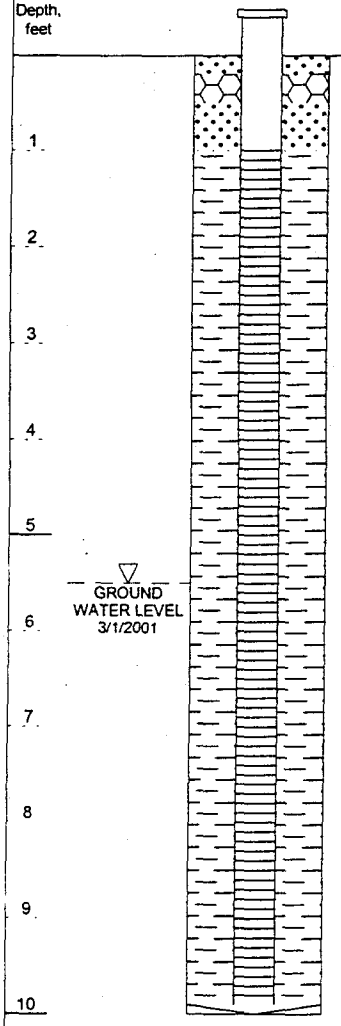
WELL CONSTRUCTION LOG

WELL NO.: **MP-PZ-110**	NORTHING: **957885.1**	EASTING: **657388.59**		
PROJECT NO./NAME: **25111Y04 / BASF**		LOCATION: **36 Riverside Drive**		
APPROVED BY: **R. Tweeddale**	LOGGED BY: **R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER: **/ Chris Osman**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE: **2-in. / Drive Sampler**	BOREHOLE DIAMETER: **2-inches**	DRILLING EQUIPMENT/METHOD: **/ Geoprobe**	SAMPLING METHOD: **2" Macro-Core**	START-FINISH DATE: **3/1/01-3/1/01**
CASING MAT./DIA.: **Stainless Steel / 1.25**	SCREEN: TYPE **Pre-Packed**	MAT. **Stainless Steel**	TOTAL LENGTH **9.0**	DIA. **1.25** SLOT SIZE
ELEVATION OF: (FT.)	GROUND SURFACE: **17.33**	TOP OF WELL CASING	TOP & BOTTOM SCREEN: **16.3 / 7.3**	GW SURFACE GRAVEL PACK: **#00**



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		Brown coarse to fine SAND and SILT, little yellow and white material; brittle (fill); dry		0.7	MP-PZ-110 Set in gravel area.
2		Brown fine SAND, little Silt; moist		0.5	
3					
4		Brown fine SAND, little Silt, trace clay; saturated		0.3	
5					
6		Brown fine SAND, little Silt, trace clay; *moist*		0.6	
7					
8		Brown fine SAND, little Silt, trace clay, wet grey clay at 9.5; moist		0.9	
9					
10		Dark brown CLAY and grey CLAY, trace organic material (roots,wood); dry		1.1	
11					
12					Bottom of boring 12 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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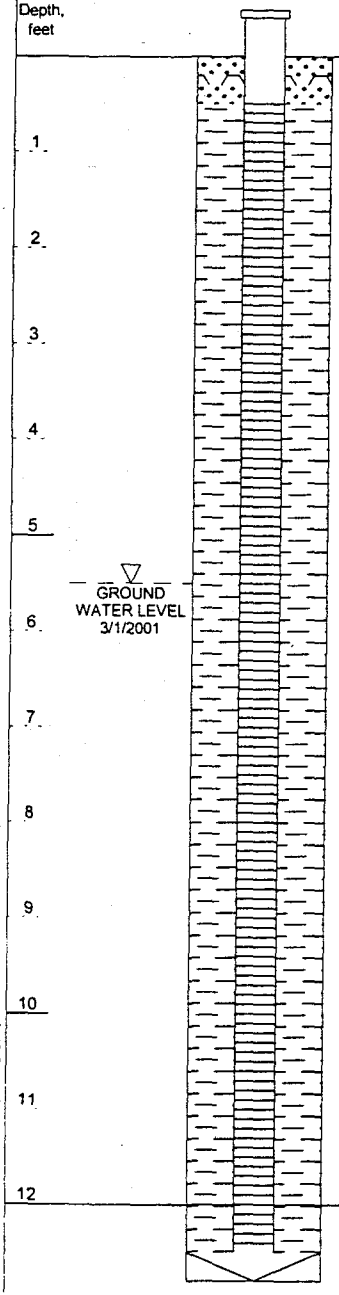
WELL CONSTRUCTION LOG

WELL NO.: **MP-PZ-111**	NORTHING: **958028.3**	EASTING: **657408.29**			
PROJECT NO./NAME: **25111Y04 / BASF**		LOCATION: **36 Riverside Drive**			
APPROVED BY: **R. Tweeddale**	LOGGED BY: **R. Tweeddale**	**Rensselaer, New York**			
DRILLING CONTRACTOR/DRILLER: **/ Chris Osman**		GEOGRAPHIC AREA			
DRILL BIT DIAMETER/TYPE: **2-in. / Drive Sampler**	BOREHOLE DIAMETER: **2-inches**	DRILLING EQUIPMENT/METHOD: **/ Geoprobe**	SAMPLING METHOD: **2" Macro-Core**	START-FINISH DATE: **3/1/01-3/1/01**	
CASING MAT./DIA.: **Stainless Steel / 1.25**	SCREEN: TYPE **Pre-Packed** MAT. **Stainless Steel** TOTAL LENGTH **12.0** DIA. **1.25** SLOT SIZE				
ELEVATION OF: (FT.)	GROUND SURFACE: **17.99**	TOP OF WELL CASING	TOP & BOTTOM SCREEN: **17.5 / 5.5**	GW SURFACE	GRAVEL PACK: **#00**



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		Brown fine to coarse SAND with Silt; frozen		1	MP-PZ-111 Set in gravelly area
2		Brown fine SAND; dry		0.8	
3					
4		Brown coarse to fine SAND; moist to wet		0.7	
5					
6					
7		Black fine SAND, some Silt, little Clay; hydrocarbon odor, possible wet at 5.5-6 feet bls.		0.5	
8					
9		Black fine SAND, some Silt, little clay; hydrocarbon odor, dry		0.4	
10					
11		Black SAND and SILT, some Clay, trace wood; hydrocarbon odor, wet, dry at 11feet bls.		0.5	
12					Bottom of boring 12 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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WELL CONSTRUCTION LOG

WELL NO.	NORTHING	EASTING
MP-PZ-112	**958211.49**	**657605.26**

PROJECT NO./NAME	LOCATION
25111Y04 / BASF	**36 Riverside Drive**

APPROVED BY	LOGGED BY	
R. Tweeddale	**R. Tweeddale**	**Rensselaer, New York**

DRILLING CONTRACTOR/DRILLER	GEOGRAPHIC AREA
/ Chris Osman	

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	**2-inches**	**/ Geoprobe**	**2" Macro-Core**	**3/27/01-3/27/01**

CASING MAT./DIA.	SCREEN:					
Stainless Steel / 1.25	TYPE **Pre-Packed**	MAT. **Stainless Steel**	TOTAL LENGTH **9.0**	DIA. **1.25**	SLOT SIZE	

ELEVATION OF:	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GW SURFACE	GRAVEL PACK
(FT.)	**16.00**		**14.0 / 5.0**		**#00**

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1–2		Brown to dark brown fine to coarse SAND and Silt, trace brick and concrete; Dry.		7.1	
2–4		Brown to dark brown fine to coarse SAND, SILT, GRAVEL, CONCRETE and BRICK; moist to wet		9.3	
4–5		Brown to dark brown fine to coarse SAND, SILT, GRAVEL, CONCRETE and BRICK; moist to wet		10	
6–7				10.3	
8–9				8.9	
11–12		CLAY			

GROUND WATER LEVEL 3/27/2001

Bottom of soil boring at 12 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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Telephone: 631-232-2600
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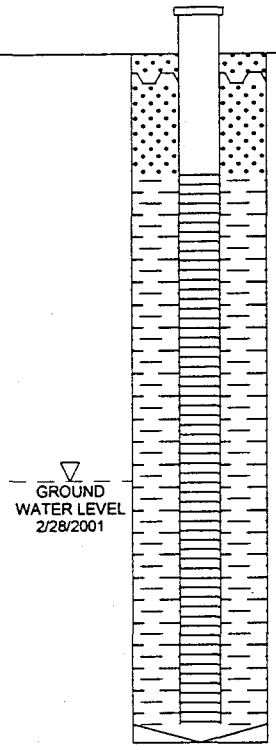
WELL CONSTRUCTION LOG

WELL NO. **MP-PZ-113**	NORTHING **958168.47**	EASTING **657806.21**			
PROJECT NO./NAME **25111Y04 / BASF**		LOCATION **36 Riverside Drive**			
APPROVED BY **R. Tweeddale**	LOGGED BY **R. Tweeddale**	**Rensselaer, New York**			
DRILLING CONTRACTOR/DRILLER **/ Chris Osman**		GEOGRAPHIC AREA			
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **2-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **2/28/01-2/28/02**	
CASING MAT./DIA. **Stainless Steel / 1.25**	SCREEN: TYPE **Pre-Packed** MAT. **Stainless Steel** TOTAL LENGTH **9.0** DIA. **1.25** SLOT SIZE				
ELEVATION OF: (FT.)	GROUND SURFACE **20.25**	TOP OF WELL CASING	TOP & BOTTOM SCREEN **18.3 / 9.3**	GW SURFACE	GRAVEL PACK **#00**



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown to dark brown coarse to fine SAND with Silt, trace gravel; dry to moist		454	
		Dark grey to purple stained SILT and fine SAND, some grey Clay with Silt; hydrocarbon odor; moist to wet		525	
5		Dark brown to black coarse SAND and SILT; hydrocarbon odor, purple color, sheen, saturated		>2000	5
		Dark brown to black coarse SAND and SILT; hydrocarbon odor, purple color, sheen, saturated		>2000	
10		Fine SAND; possible Clay at 12 feet bls., hydrocarbon odor, saturated			10
		Very loose dark grey fine to coarse SAND; hydrocarbon odor, sheen, saturated		1465	
15		Very loose dark grey fine to coarse SAND; hydrocarbon odor, sheen, saturated			15
20					20

Bottom of boring 20 feet below land surface

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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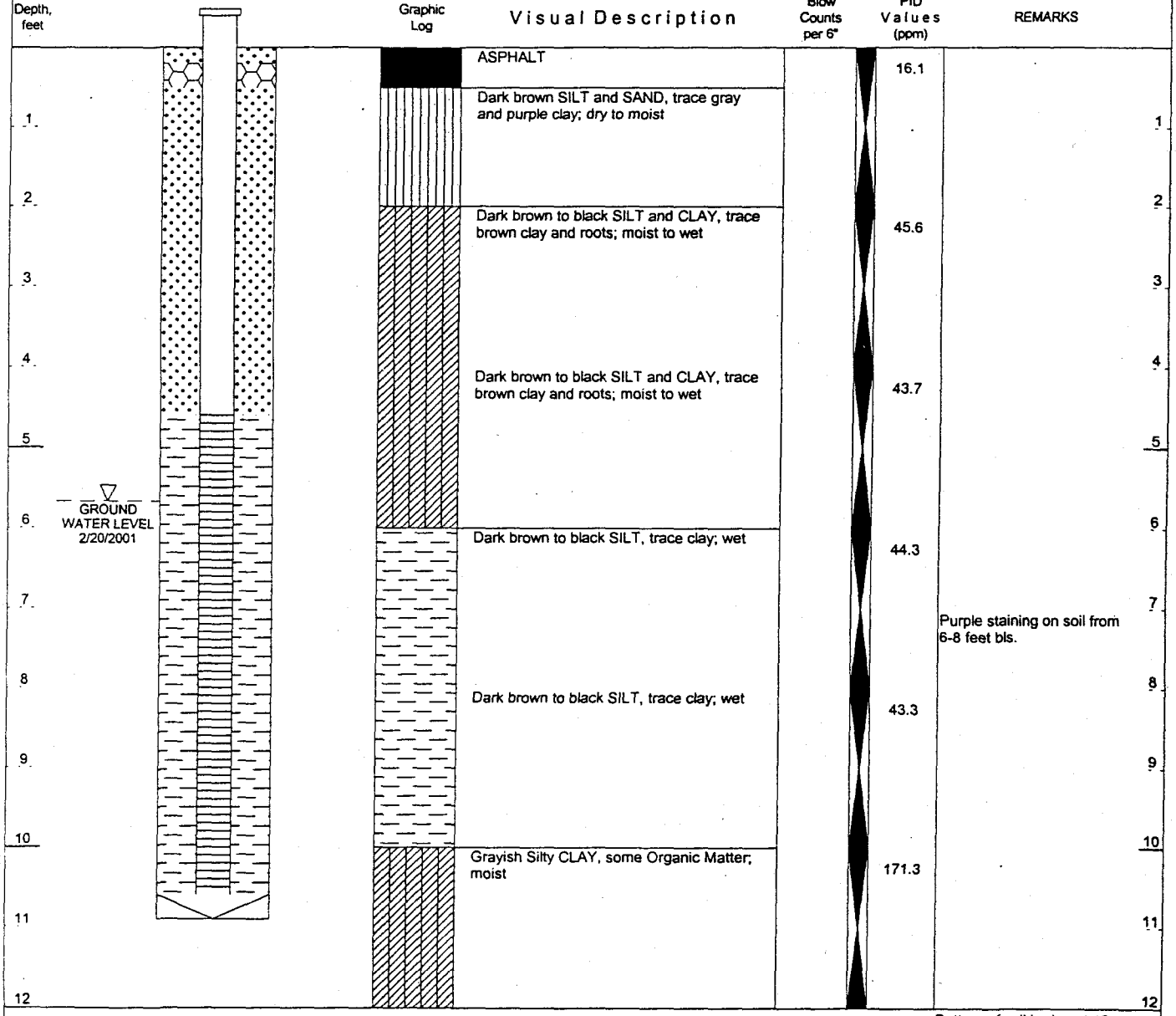
WELL CONSTRUCTION LOG

WELL NO.	NORTHING	EASTING		
MP-PZ-114	**958148.65**	**657966.4**		
PROJECT NO./NAME		LOCATION		
25111Y04 / BASF		**36 Riverside Drive**		
APPROVED BY	LOGGED BY			
R. Tweeddale	**R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER		GEOGRAPHIC AREA		
/ Chris Osman				
DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	**2-inches**	**/ Geoprobe**	**2" Macro-Core**	**2/20/01-2/20/01**

CASING MAT./DIA.	SCREEN:				
Stainless Steel / 1.25	TYPE **Pre-Packed**	MAT. **Stainless Steel**	TOTAL LENGTH **6.0**	DIA. **1.25**	SLOT SIZE

ELEVATION OF:	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GW SURFACE	GRAVEL PACK
(FT.)	**21.69**		**17.1 / 11.1**		**#00**



Bottom of soil boring at 12 *feet below land surface.*

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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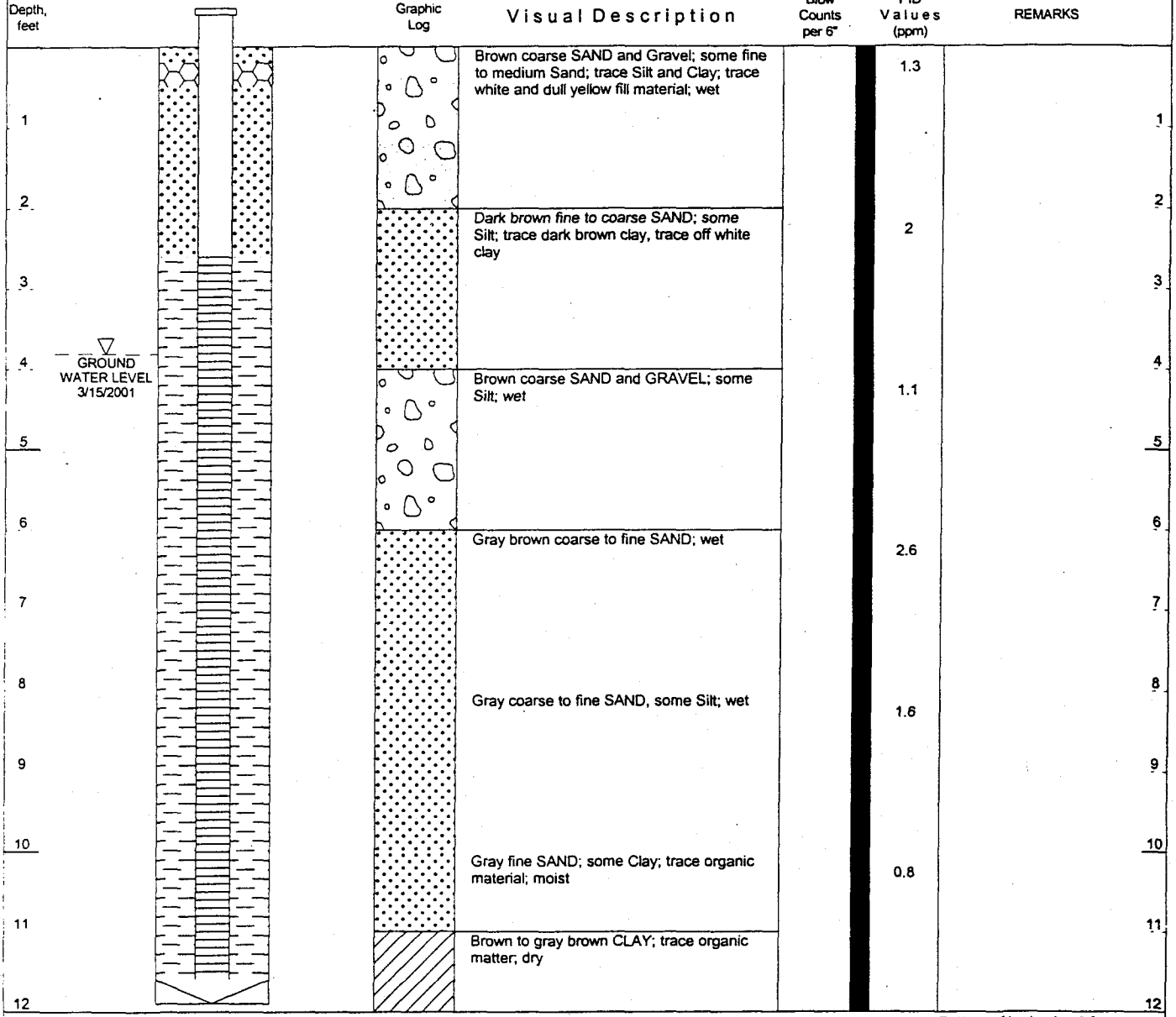
WELL CONSTRUCTION LOG

WELL NO. **LF-PZ-115**	NORTHING **957656.29**	EASTING **657485.1**		
PROJECT NO./NAME **25111Y04 / BASF**		LOCATION **36 Riverside Drive**		
APPROVED BY **R. Tweeddale**	LOGGED BY **R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER **/ Chris Osman**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **2-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **3/15/01-3/15/01**
CASING MAT./DIA. **Stainless Steel / 1.25**	SCREEN: TYPE **Pre-Packed** MAT. **Stainless Steel** TOTAL LENGTH **9.0** DIA. **1.25**			SLOT SIZE
ELEVATION OF: (FT.) GROUND SURFACE **14.92**	TOP OF WELL CASING	TOP & BOTTOM SCREEN **12.3 / 3.3**	GW SURFACE	GRAVEL PACK **#00**



Bottom of boring is 12 feet below land surface.

BORING/WELL 25111Y04.GPJ ,ROUX.GDT 8/3/01

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WELL CONSTRUCTION LOG

WELL NO.	NORTHING	EASTING
LF-PZ-116	958365.58	656757.64

PROJECT NO./NAME	LOCATION
25111Y04 / BASF	36 Riverside Drive

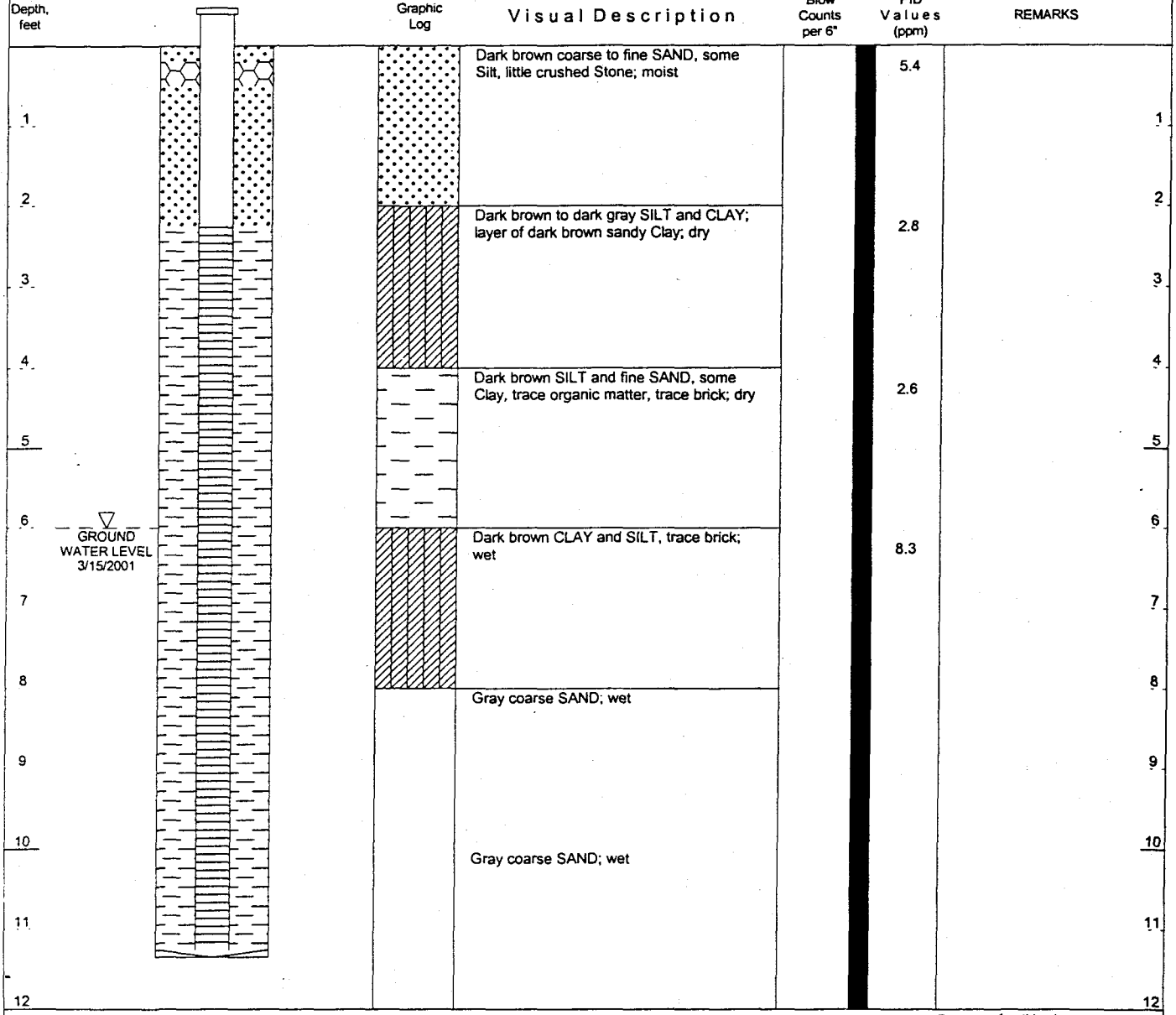
APPROVED BY	LOGGED BY	
R. Tweeddale	R. Tweeddale	Rensselaer, New York

DRILLING CONTRACTOR/DRILLER	GEOGRAPHIC AREA
/ Chris Osman	

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	/ Geoprobe	2" Macro-Core	3/22/01-3/22/01

CASING MAT./DIA.	SCREEN:				
Stainless Steel / 1.25	TYPE Pre-Packed	MAT. Stainless Steel	TOTAL LENGTH 9.0	DIA. 1.25	SLOT SIZE

ELEVATION OF: (FT.)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GW SURFACE	GRAVEL PACK
	17.63		15.4 / 6.4		#00



Bottom of soil boring at 12 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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WELL CONSTRUCTION LOG

WELL NO. **LF-PZ-117**	NORTHING **957537.6**	EASTING **657734.71**		
PROJECT NO./NAME **25111Y04 / BASF**		LOCATION **36 Riverside Drive**		
APPROVED BY **R. Tweeddale**	LOGGED BY **R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER **/ Chris Osman**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **2-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **3/15/01-3/15/01**
CASING MAT./DIA. **Stainless Steel / 1.25**	SCREEN: TYPE **Pre-Packed** MAT. **Stainless Steel** TOTAL LENGTH **9.0** DIA. **1.25** SLOT SIZE			
ELEVATION OF: (FT.) GROUND SURFACE **17.14**	TOP OF WELL CASING	TOP & BOTTOM SCREEN **14.4 / 5.4**	GW SURFACE	GRAVEL PACK **#00**

Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
1		Brown fine to coarse SAND, some Gravel, some Silt, trace wood fragments and roots; wet		4.4	
2		*Brown medium to fine SAND and SILT,* trace coal fragments; dry		9.2	
3					
4		Brown fine to coarse SAND, some Silt; moist to wet		7.2	
5					
6		Dark brown coarse to fine SAND and GRAVEL, some Silt, trace cement; wet		7.8	
7					
8		Brown coarse SAND and GRAVEL; wet			
9					
10		Brown coarse SAND and GRAVEL; wet			
11					
12					

GROUND WATER LEVEL 3/15/2001

Bottom of soil boring at 12 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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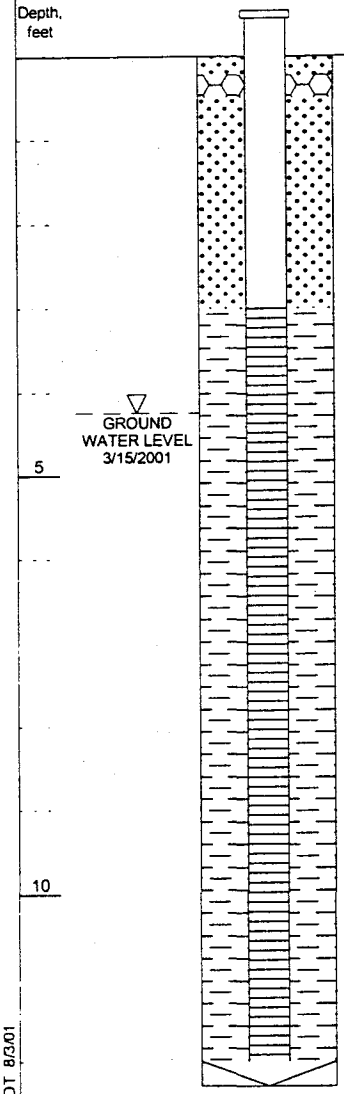
WELL CONSTRUCTION LOG

WELL NO. **LF-PZ-118**	NORTHING **957759.59**	EASTING **657943.91**		
PROJECT NO./NAME **25111Y04 / BASF**		LOCATION **36 Riverside Drive**		
APPROVED BY **R. Tweeddale**	LOGGED BY **R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER **/ Chris Osman**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **2-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **3/15/01-3/15/01**
CASING MAT./DIA. **Stainless Steel / 1.25**	SCREEN: TYPE **Pre-Packed** MAT. **Stainless Steel** TOTAL LENGTH **9.0** DIA. **1.25** SLOT SIZE			
ELEVATION OF: (FT.) GROUND SURFACE **19.98**	TOP OF WELL CASING	TOP & BOTTOM SCREEN **17.0 / 8.0**	GW SURFACE	GRAVEL PACK **#00**



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown to light brown CLAY, trace dark brown silt and organic material, and brick; dry		0.5	
		Dark brown SILT and CLAY, trace brick, glass, cement, and crushed stone; dry		2.5	
5		Dark brown to black CLAY and SILT, some Gravel and Sand; wet		5	5
		Black to dark purple CLAY, trace white clay; wet			Hydrocarbon odor in soil from 8-14 ft. bls.
10				14.5	10
		Gray to dark gray stained CLAY, trace organic material and roots; dry to moist		38	
					End of soil boring is 14 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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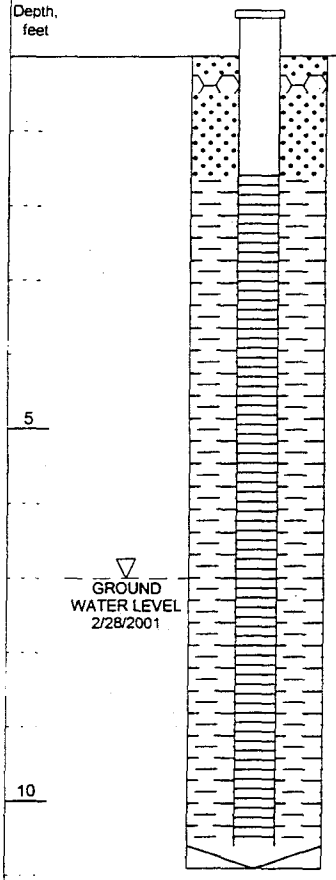
WELL CONSTRUCTION LOG

WELL NO. **MP-PZ-119**	NORTHING **958183.31**	EASTING **658049.3**		
PROJECT NO./NAME **25111Y04 / BASF**		LOCATION **36 Riverside Drive**		
APPROVED BY **R. Tweeddale**	LOGGED BY **R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER **/ Chris Osman**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE **2-in. / Drive Sampler**	BOREHOLE DIAMETER **2-inches**	DRILLING EQUIPMENT/METHOD **/ Geoprobe**	SAMPLING METHOD **2" Macro-Core**	START-FINISH DATE **2/28/01-2/28/02**
CASING MAT./DIA. **Stainless Steel / 1.25**	SCREEN: TYPE **Pre-Packed** MAT. **Stainless Steel** TOTAL LENGTH **9.0** DIA. **1.25** SLOT SIZE			
ELEVATION OF: (FT.) GROUND SURFACE **18.48**	TOP OF WELL CASING	TOP & BOTTOM SCREEN **16.9 / 7.9**	GW SURFACE	GRAVEL PACK **#00**



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown to dark brown fine to coarse SAND with Silt, trace gravel; dry to moist		400	MP-PZ-119 Set in gravel area.
		Dark grey to purple stained SILT and fine SAND, grey CLAY with Silt; hydrocarbon odor, moist to wet		210	
5		Grey fine to medium SAND, some Silt; hydrocarbon odor; wet		1568	5
				>2000	
		Dark grey coarse to fine SAND, some Silt, little Gravel, trace clay; hydrocarbon oder; wet		1477	
10		Dark grey fine SAND and SILT with Clay, little Gravel, trace plants; hydrocarbon odor and sheen; wet		1934	10
		Dark grey CLAY with bands of Gravel and Sand; hydrocarbon odor; wet		795	

Bottom of boring is at 14 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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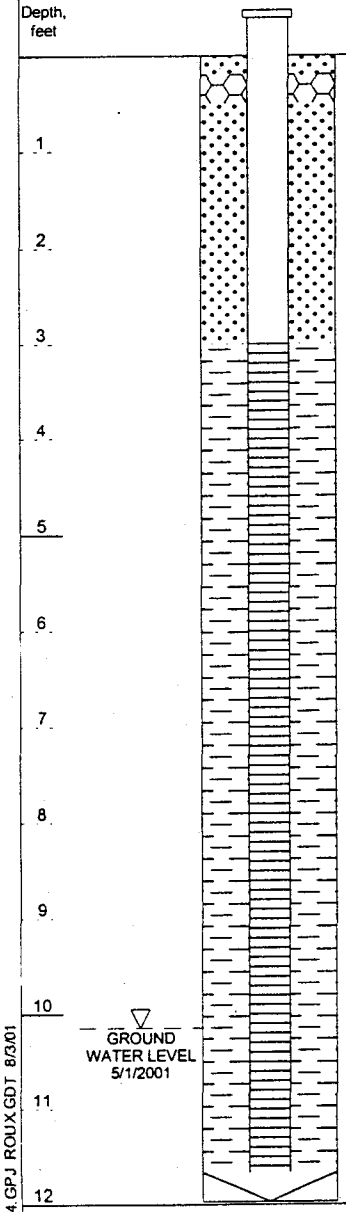
WELL CONSTRUCTION LOG

WELL NO.: **MP-PZ-120**	NORTHING: **958634.72**	EASTING: **657776.44**		
PROJECT NO./NAME: **25111Y04 / BASF**		LOCATION: **36 Riverside Drive**		
APPROVED BY: **R. Tweeddale**	LOGGED BY: **R. Tweeddale**	**Rensselaer, New York**		
DRILLING CONTRACTOR/DRILLER: **/ Chris Osman**		GEOGRAPHIC AREA		
DRILL BIT DIAMETER/TYPE: **2-in. / Drive Sampler**	BOREHOLE DIAMETER: **2-inches**	DRILLING EQUIPMENT/METHOD: **/ Geoprobe**	SAMPLING METHOD: **2" Macro-Core**	START-FINISH DATE: **5/1/01-5/1/01**
CASING MAT./DIA.: **Stainless Steel / 1.25**	SCREEN: TYPE **Pre-Packed** MAT. **Stainless Steel** TOTAL LENGTH **6.0** DIA. **1.25** SLOT SIZE			
ELEVATION OF: (FT.) GROUND SURFACE: **20.29**	TOP OF WELL CASING	TOP & BOTTOM SCREEN: **14.6 / 8.6**	GW SURFACE	GRAVEL PACK: **#00**



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
0 – 3		Light to dark brown coarse to fine SAND, some Gravel; dry to moist		10.9 12	
3 – 4		Light to dark brown coarse to fine SAND, some Gravel; dry to moist			
4 – 5		Dark brown coarse to fine SAND, some Gravel, trace white fill; dry		17.7	Dark staining on soil at 4 feet below land surface.
8 – 9		Dark brown SAND and SILT, some Gravel; moist to wet		139.2	
10 – 12		Dark brown to black CLAY, some Silt; moist		27.3	Bottom of soil boring at 12 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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WELL CONSTRUCTION LOG

WELL NO.	NORTHING	EASTING
MP-PZ-121	958670.88	657815.14

PROJECT NO./NAME	LOCATION
25111Y04 / BASF	36 Riverside Drive

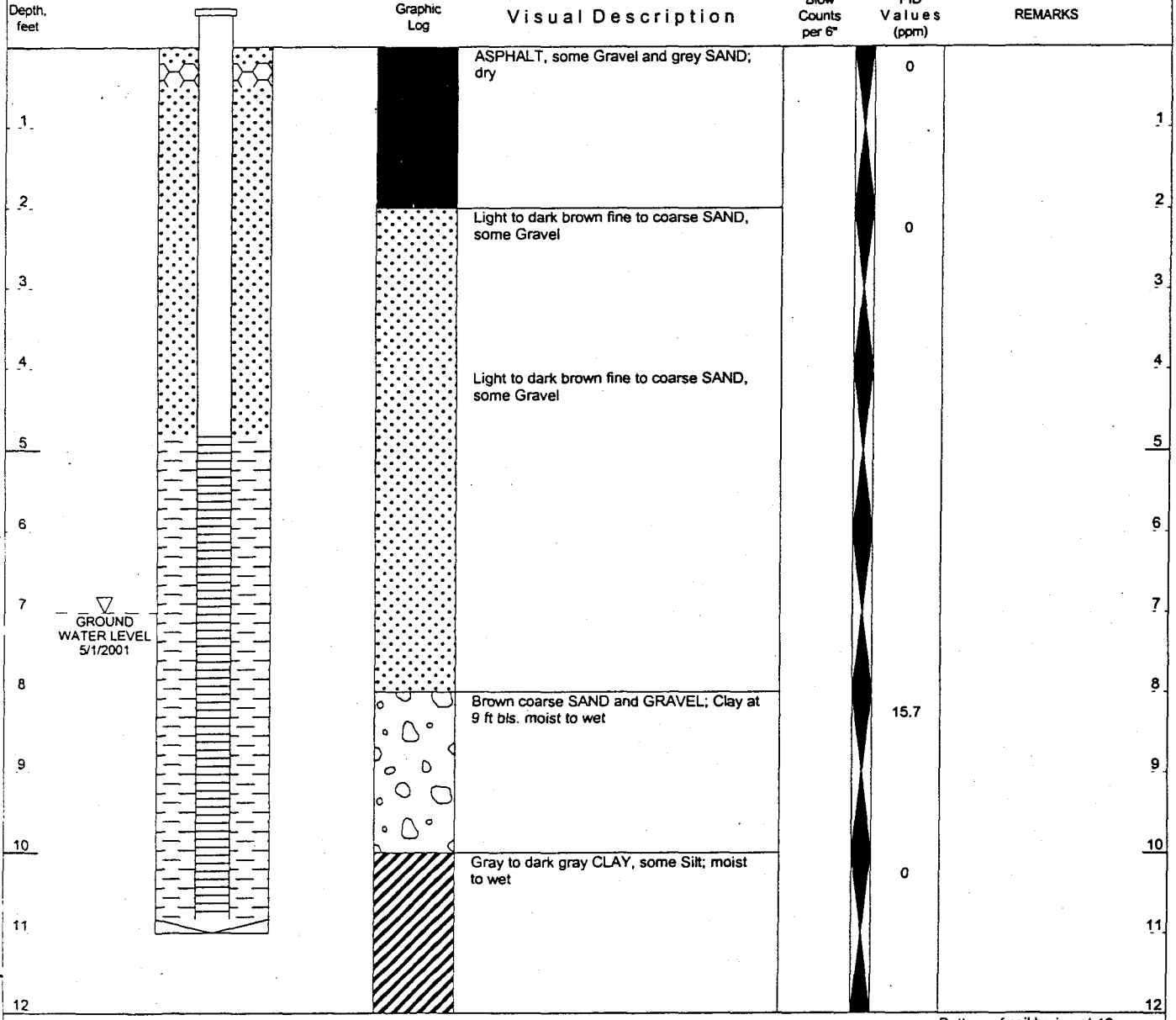
APPROVED BY	LOGGED BY	
R. Tweeddale	R. Tweeddale	Rensselaer, New York

DRILLING CONTRACTOR/DRILLER	GEOGRAPHIC AREA
/ Chris Osman	

DRILL BIT DIAMETER/TYPE	BOREHOLE DIAMETER	DRILLING EQUIPMENT/METHOD	SAMPLING METHOD	START-FINISH DATE
2-in. / Drive Sampler	2-inches	/ Geoprobe	2" Macro-Core	5/1/01-5/1/01

CASING MAT./DIA.	SCREEN:				
Stainless Steel / 1.25	TYPE Pre-Packed	MAT. Stainless Steel	TOTAL LENGTH 6.0	DIA. 1.25	SLOT SIZE

ELEVATION OF: (FT.)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GW SURFACE	GRAVEL PACK
	18.35		13.6 / 7.6		#00



Bottom of soil boring at 12 feet below land surface.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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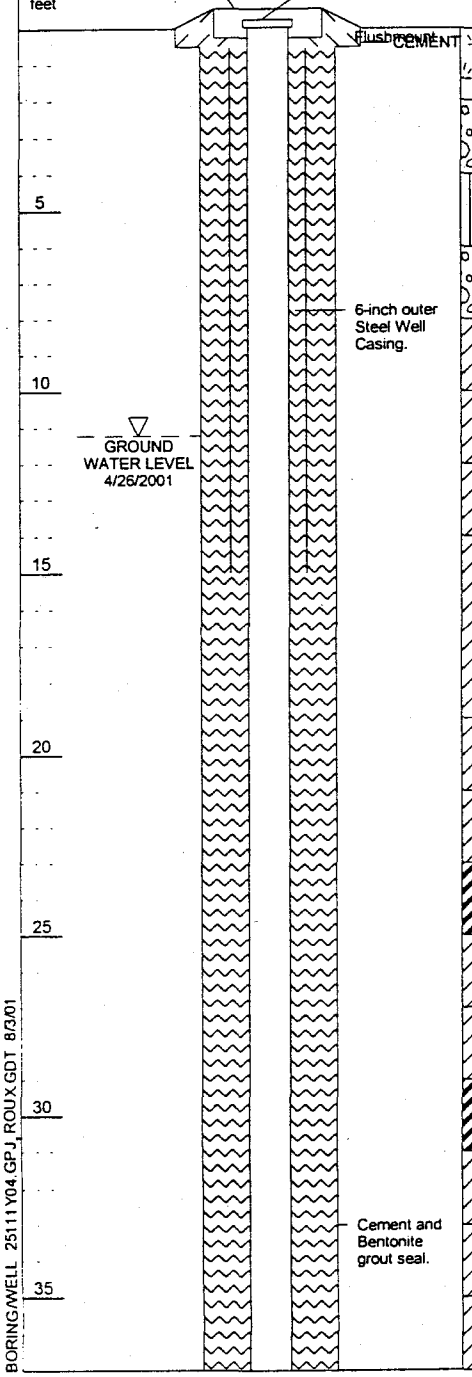
WELL CONSTRUCTION LOG

WELL NO. **MP-MW-113**	NORTHING **958544.91**	EASTING **656864.41**			
PROJECT NO./NAME **25111Y04 / BASF**		LOCATION **36 Riverside Drive**			
APPROVED BY **R. Tweeddale**	LOGGED BY **R. Tweeddale**	**Rensselaer, New York**			
DRILLING CONTRACTOR/DRILLER **Aquifer Drilling and Testing / Lester Darrow**		GEOGRAPHIC AREA			
DRILL BIT DIAMETER/TYPE **4.25-in. / Tri-Cone**	BOREHOLE DIAMETER **6-inches**	DRILLING EQUIPMENT/METHOD **CME-75 / Drive and Wash**	SAMPLING METHOD **2" Split Spoon**	START-FINISH DATE **4/16/01-4/20/01**	
CASING MAT./DIA. **Carbon Steel / 6-inch**	SCREEN: TYPE **Slotted** MAT. **PVC**	TOTAL LENGTH **20.0**	DIA. **6-inch**	SLOT SIZE **10-Slot**	
ELEVATION OF: (FT.)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN /	GW SURFACE	GRAVEL PACK **Morie #1**



Depth, feet	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
	TOPSOIL, (i.e. brown SAND AND SILT), trace fine to coarse gravel and trace roots; dry to moist	2 1 2	—	
	Light brown coarse SAND and GRAVEL; dry	2 5 4 7 8 9	—	MP-MW-113 is set in grassy area.
5	Light brown to brown fine SANDand SILT, little coarse Sand, trace gravel; dry	5 10 9 9	0	Six inch diameter steel suface casing. 5
	Light brown to brown coarse to medium SAND, little Gravel, trace silt; wet	7 10 15 9	1.4	
	Light brown CLAY; wet	6 4 7 9	40.3	10
10	Light brown CLAY, trace purple streaks; wet	6 6 7 8	83.7	Bottom of surface casing is set 5-feet into clay.
	Light brown CLAY, trace grey silt, trace grey clay; moist	8 8 6 7	7.2	Surface casing is set from land surface to 15-feet below land surface (bls).
15	Light brown CLAY, trace grey silt, trace grey clay; moist		—	15
20	Grey CLAY; dry	WOH 2 2 2	2.1	Auger only from 14 to 19-feet bls. 20
	Grey CLAY; dry	2 33 3 2	4.7	
	Grey CLAY, very elastic; dry	WOH WOH WOH 2	12.5	25
25	Grey CLAY; dry	WOH 4 6 3	12	
	Grey CLAY; dry	WOH 2 2 3	11.5	
30	Grey CLAY, very elastic; dry	WOH WOH WOH WOH	14	30
	Grey CLAY; dry	WOH 2 2 2	11.4	
	Grey CLAY; dry	WOH WOH 1 3	11.2	
35	Grey CLAY; dry	WOH WOH 1 3	10.9	35

BORING/WELL 25111Y04.GPJ, ROUX.GDT 8/3/01

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WELL CONSTRUCTION LOG

WELL NO.	NORTHING	EASTING
MP-MW-113	**958544.91**	**656864.41**
PROJECT NO./NAME		LOCATION
25111Y04 / BASF		**36 Riverside Drive**
APPROVED BY	LOGGED BY	**Rensselaer, New York**
R. Tweeddale	**R. Tweeddale**	

Depth, feet	Graphic Log	Visual Description (continued)	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Grey CLAY; dry	WOH WOH WOH WOH	8.7	
40		Grey CLAY; dry	WOH WOH WOH WOH	6	40
		Grey CLAY; dry	WOH WOH WOH WOH	8.2	
		Grey CLAY; dry	WOH WOH WOH WOH	5.7	
45		Grey CLAY; dry	WOH WOH 2 2	5.5	45
		Grey CLAY; dry	WOH WOH WOH WOH	6.1	
50		Grey CLAY; dry	2 2 2 2	18	50
		Grey CLAY; dry	2 3 3 4	15	
		Grey CLAY with Silt; dry	WOH	2	
		Grey CLAY; dry	WOH WOH WOH		
55		Grey CLAY, some grey Silt; dry	WOH 2 3 4	20	55
		Grey CLAY, some grey Silt, trace fine sand; wet	2 4 4 10	19	
60		Grey CLAY, some Silt; moist to wet	12 11 9 14	1	60
		Grey coarse to fine SAND, little grey Silt, trace fine gravel; wet	16 16 20 20	25	
		Grey SAND and GRAVEL, little grey coarse to fine Sand; wet	17 22	19	
65		Grey SILT, trace coarse gravel; wet	43 40		65
		Grey to dark grey to black fine SAND, trace grey silt; wet	11 23 30 40	2	
		Grey fine SAND and SILT; wet	24 25 28 31	25	
70		Grey fine SAND, little Silt, little coarse to fine Gravel; wet	19 23 40 30	5	70
		Grey fine SAND, little Silt, little coarse to fine Gravel; wet	23 17 18 33	25	
		Grey fine SAND, little Silt, little coarse to fine Gravel; wet	25 50 39 43	1	
75		Grey fine SAND, little Silt, little coarse to fine Gravel, trace shale; wet	67 52 50/0.1	12	75 Bedrock encountered at 76.6-feet bls.
		SHALE, (weathered Bedrock); wet	50/0.1	12	Bottom of well set at 77.5-feet bls.

2-foot Bentonite Chips Seal placed above Sand Choke.
1-foot 0.00-foot Sand Choke placed above Sand Pack.
20-feet of 2-inch diameter 0.01-inch Slot PVC Screen.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

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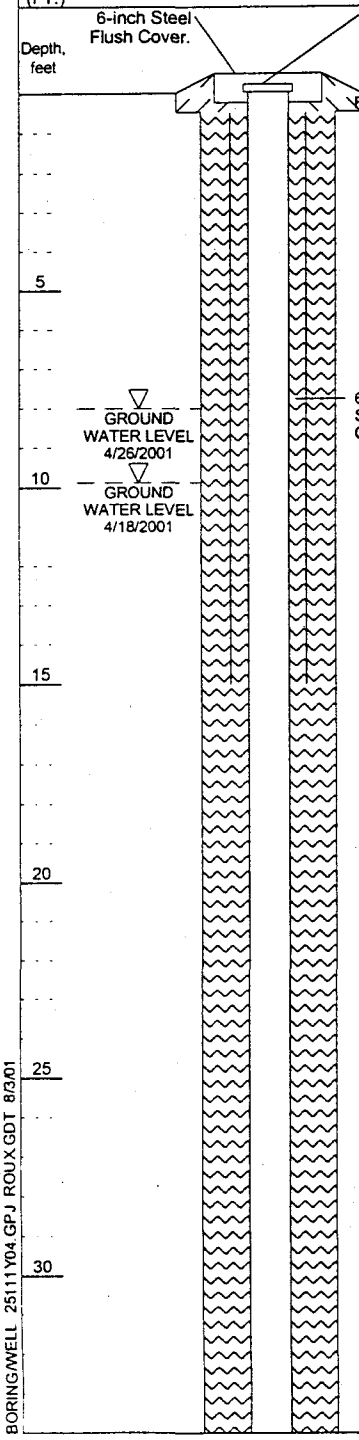
WELL CONSTRUCTION LOG

WELL NO. **MP-MW-114**	NORTHING **958147.51**	EASTING **657079.11**			
PROJECT NO./NAME **25111Y04 / BASF**		LOCATION **36 Riverside Drive**			
APPROVED BY **R. Tweeddale**	LOGGED BY **R. Tweeddale**	**Rensselaer, New York**			
DRILLING CONTRACTOR/DRILLER **Aquifer Drilling and Testing / Lester Darrow**		GEOGRAPHIC AREA			
DRILL BIT DIAMETER/TYPE **4.25-in. / Tri-Cone**	BOREHOLE DIAMETER **6-inches**	DRILLING EQUIPMENT/METHOD **CME-75 / Drive and Wash**	SAMPLING METHOD **2" Split Spoon**	START-FINISH DATE **4/16/01-4/17/01**	
CASING MAT./DIA. **Carbon Steel / 6-inch**	SCREEN: TYPE **Slotted** MAT. **PVC**	TOTAL LENGTH **10.0**	DIA. **6-inch**	SLOT SIZE **10-Slot**	
ELEVATION OF: (FT.)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN /	GW SURFACE	GRAVEL PACK **Morie #1**



Depth, feet	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
		Brown fine to coarse SAND, little Silt, trace possible staining; dry	10 8 8 8	3	
		Brown fine SAND, trace gravel; moist	10 10 7 7	6.2	MW-MP-114 set in gravelly area.
5		Brown coarse to fine SAND, some Gravel, little Clay and Silt; wet	3 8 11 13	6.2	Six inch diameter steel suface casing. 5
		Brown coarse to fine SAND, some Gravel, trace possible stained gravel at 7.8 feet bls; wet	11 11 12 11	8	
		Brown coarse to fine SAND, some Gravel, trace possible stained gravel at 7.8 feet bls; wet	4 5 7 3	32.8	10
		Light brown to tan CLAY; moist	2 1 3 5	35.5	Bottom of surface casing is set 5-feet into clay.
		Light brown to tan CLAY; moist	6 6 5 5	28	Surface casing is set from land surface to 15-feet below land surface (bls).
15		Grey CLAY; dry to moist			15
		Grey CLAY; dry to moist	WOH WOH 1 2	9.5	
20		Grey CLAY; dry	WOH WOH 2 2	7.5	20
		Grey CLAY; dry	1 2 2 3	7.2	
25		Grey CLAY; dry	WOH WOH WOH 1	11	25
		Grey CLAY; dry	WOH 2 2 1	10.6	
		Grey CLAY; dry	WOH WHO 2 2	6.7	
30		Grey CLAY; dry	WOH WOH 2 3	6.8	30
		Grey CLAY; dry	2 2 3 3	9	

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

1377 Motor Parkway
Islandia, New York 11749
Telephone: 631-232-2600
Fax: 631-232-9898

WELL CONSTRUCTION LOG

WELL NO.	NORTHING	EASTING
MP-MW-114	**958147.51**	**657079.11**
PROJECT NO./NAME		LOCATION
25111Y04 / BASF		**36 Riverside Drive**
APPROVED BY	LOGGED BY	
R. Tweeddale	**R. Tweeddale**	**Rensselaer, New York**

Depth, feet	Graphic Log	Visual Description (continued)	Blow Counts per 6"	PID Values (ppm)	REMARKS
35		Grey CLAY; dry	WOH WOH WOH 3	8.8	35
		Grey CLAY; dry	WOH 2 1 2	1.8	
		Grey CLAY; dry	WOH WOH WOH WOH	6	
40		Grey CLAY; dry	WOH WOH WOH WOH	8.3	40
		Grey CLAY; dry	WOH WOH WOH WOH	5.7	
45		Grey CLAY; dry	WOH WOH WOH WOH	5.5	45
		Grey CLAY; dry	WOH WOH WOH WOH	6.1	
50		Grey CLAY; dry	WOH WOH WOH WOH	11.2	50
		Grey CLAY; dry	WOH WOH WOH WOH	9.4	
		Grey CLAY; dry	WOH WOH WOH WOH	8.6	
55		Grey CLAY; dry	WOH WOH WOH WOH	10.5	55
		Grey CLAY; dry	WOH 6 7 7	12.7	
		Grey CLAY; dry	WOH WOH WOH WOH	13	
60		Grey CLAY; dry	WOH WOH WOH WOH	11.3	60
		Grey CLAY, little grey Silt, little black fine Sand, trace gravel; wet	1 4 8 20	12.3	
65		Grey fine SAND and SILT, trace clay; wet	1 3 4 10	14	65
		Grey fine SAND, little grey Silt; wet	11 12 13 11	0.8	
70		Dark grey coarse to medium SAND, some fine Gravel; wet	10 14 16 25	0.8	Bottom of well set at 69-feet bls. 70
		SHALE, (weathered Bedrock); wet	100/0.15	0.7	Bedrock encountered at 70.5-feet bls.

Cement and Bentonite grout seal.

2-foot Bentonite Chips Seal placed above Sand Choke.

1-foot 0.00-foot Sand Choke placed above Sand Pack.

20-feet of 2-inch diameter 0.01-inch Slot PVC Screen.

BORING/WELL 25111Y04.GPJ ROUX.GDT 8/3/01

LEGEND

LOCATION PREFIXES
LG – LAGOON
MP – MAIN PLANT
LF – LANDFILL
ST – ORGANICHEM PROPERTY (FORMERLY STERLING ORGANICS)

- EXISTING BUILDING
- FORMER BUILDING
- FORMER OR EXISTING ALLEGED UNDERGROUND TANK OR PIT
- C① E① O① U① D① DESIGNATES POTENTIAL AREA OF INTEREST, TABLE 3–1 "REMEDIAL INVESTIGATION WORKPLAN" MALCOM PIRNIE, INC., 1998
- STORM SEWER GRATE
- OVERHEAD UTILITY SUPPORTS
- BARBED WIRE FENCE
- CHAINLINK FENCE
- MP-SB-1 LOCATION AND DESIGNATION OF SOIL BORING SAMPLED DURING RI AND SUPPLEMENTAL RI
- LG-MH-7 LOCATION AND DESIGNATION OF SEWER BEDDING GROUNDWATER SAMPLING POINT
- LG-MW-1 LOCATION AND DESIGNATION OF MONITORING WELL
- MP-PP-5 LOCATION AND DESIGNATION OF PERFORATED PIPE RISER
- LF-PZ-5 LOCATION AND DESIGNATION OF PIEZOMETER
- MP-SB-61 LOCATION AND DESIGNATION OF SOIL BORING SAMPLED DURING ADDITIONAL RI ACTIVITIES
- MP-SB-80 LOCATION AND DESIGNATION OF SOIL BORING IN PROCESS RESIDUE IN BUILDING BASEMENT
- MP-FS-1 LOCATION AND DESIGNATION OF SAMPLE OF SEDIMENT COVERING CONCRETE BASEMENT FLOOR

100' 0 100'

NOTE:

1. BASE MAP ADAPTED FROM PLATE 1, "REMEDIAL INVESTIGATION WORKPLAN" (MALCOLM PIRNIE, INC., 1998)

Title:

SOIL SAMPLING LOCATIONS

ADDITIONAL RI ACTIVITIES
RENSSELAER, NEW YORK FACILITY

Prepared For:
BASF CORPORATION
MOUNT OLIVE, NEW JERSEY

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: M.R.	Date: 30JUL01	PLATE
Prepared by: R.K.	Scale: AS SHOWN	1
Project Mgr: N.E.	Office: NY	
File No: BF1115829	Project: 25111Y04	

LEGEND

LOCATION PREFIXES
LG – LAGOON
MP – MAIN PLANT
LF – LANDFILL
ST – ORGANICHEM PROPERTY (FORMERLY STERLING ORGANICS)

- EXISTING BUILDING
- FORMER BUILDING
- FORMER OR EXISTING ALLEGED UNDERGROUND TANK OR PIT
- $C_{①}\ E_{①}\ O_{①}\ U_{①}\ D_{①}$ — DESIGNATES POTENTIAL AREA OF INTEREST, TABLE 3-1 "REMEDIAL INVESTIGATION WORKPLAN" MALCOM PIRNIE, INC., 1998
- STORM SEWER GRATE
- OVERHEAD UTILITY SUPPORTS
- BARBED WIRE FENCE
- CHAINLINK FENCE
- MP-MW-103 — LOCATION AND DESIGNATION OF MONITORING WELL (NOT SAMPLED DURING ADDITIONAL RI ACTIVITIES)
- LF-PZ-5 — LOCATION AND DESIGNATION OF PIEZOMETER (NOT SAMPLED DURING ADDITIONAL RI ACTIVITIES)
- LG-MH-7 — LOCATION AND DESIGNATION OF SEWER BEDDING GROUNDWATER SAMPLING POINT SAMPLED DURING ADDITIONAL RI ACTIVITIES
- LG-MW-1 — LOCATION AND DESIGNATION OF MONITORING WELL SAMPLED DURING ADDITIONAL RI ACTIVITIES
- MP-PP-5 — LOCATION AND DESIGNATION OF PERFORATED PIPE RISER SAMPLED DURING ADDITIONAL RI ACTIVITIES
- LF-PZ-5 — LOCATION AND DESIGNATION OF PIEZOMETER INSTALLED USING GEOPROBE SAMPLED DURING ADDITIONAL RI ACTIVITIES
- MP-MW-114 — LOCATION AND DESIGNATION OF DOUBLE-CASED MONITORING WELL SCREENED IN LOWER SAND AND GRAVEL UNIT INSTALLED AND SAMPLED DURING ADDITIONAL RI ACTIVITIES
- MP-SB-115 — LOCATION AND DESIGNATION OF PILOT BOREHOLE THAT WAS NOT COMPLETED DUE TO ABSENCE OF LOWER SAND AND GRAVEL UNIT

NOTES:
(1) BASE MAP ADAPTED FROM PLATE 1, "REMEDIAL INVESTIGATION WORKPLAN" (MALCOLM PIRNIE, INC., 1998)

100' 0 100'

Title:

GROUNDWATER SAMPLING LOCATIONS

ADDITIONAL RI ACTIVITIES
RENSSELAER, NEW YORK FACILITY

Prepared For:
BASF CORPORATION
MOUNT OLIVE, NEW JERSEY

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: M.R.	Date: 30JUL01	PLATE
Prepared by: R.K.	Scale: AS SHOWN	2
Project Mgr: N.E.	Office: NY	
File No: BF1115830	Project: 25111Y04	

LEGEND

LOCATION PREFIXES
LG – LAGOON
MP – MAIN PLANT
LF – LANDFILL
ST – ORGANICHEM PROPERTY (FORMERLY STERLING ORGANICS)

- EXISTING BUILDING
- FORMER BUILDING
- FORMER OR EXISTING ALLEGED UNDERGROUND TANK OR PIT
- C E O U D — DESIGNATES POTENTIAL AREA OF INTEREST, TABLE 3-1 "REMEDIAL INVESTIGATION WORKPLAN" MALCOLM PIRNIE, INC., 1998
- STORM SEWER GRATE
- BARBED WIRE FENCE
- CHAINLINK FENCE
- APPROXIMATE LOCATION OF PERFORATED PIPE
- MP-PP-5 — LOCATION AND DESIGNATION OF PERFORATED PIPE RISER
- MP-MW-101 — LOCATION AND DESIGNATION OF EXISTING MONITORING WELL
- LF-PZ-5 — LOCATION AND DESIGNATION OF EXISTING PIEZOMETER
- 14 — CONTOUR OF EQUAL WATER LEVEL ELEVATION IN FEET RELATIVE TO MEAN SEA LEVEL (DASHED WHERE INFERRED)
- 14.81 — WATER-LEVEL ELEVATION IN FEET RELATIVE TO MEAN SEA LEVEL
- INFERRED DIRECTION OF FLOW
- NM — WATER-LEVEL NOT MEASURED
- * — WATER LEVEL NOT USED IN MAP CONSTRUCTION
- APPROXIMATE EXTENT WHERE SATURATED FILL WAS NOT PRESENT

100' 0 100'

NOTES:

(1) BASE MAP ADAPTED FROM PLATE 1, "REMEDIAL INVESTIGATION WORKPLAN" (MALCOLM PIRNIE, INC., 1998)

(2) WATER LEVELS MEASURED ON APRIL 9 AND APRIL 10, 2001

(3) WATER LEVELS FOR LOCATED ON ORGANICHEN PROPERTY WERE MEASURED BY SCIENCE APPLICATIONS CORPORATION ON APRIL 9, 2001

Title:

GROUNDWATER ELEVATIONS APRIL 2001

ADDITIONAL RI ACTIVITIES
RENSSELAER, NEW YORK FACILITY

Prepared For:
BASF CORPORATION
MOUNT OLIVE, NEW JERSEY

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: S.S.	Date: 27JUL01	PLATE 3
Prepared by: R.K.	Scale: AS SHOWN	
Project Mgr: N.E.	Office: NY	
File No: BF1115826	Project: 25111Y04	

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MP-SB-71	0 – 2	4 – 6
Arsenic	161	494
Chromium	19.1 E	12.6 E
Lead	49.7	60.9
Mercury	0.16	--
1,2,4-Trichlorobenzene	7700 U	--
Benzo[a]anthracene	2300 U	2600
Benzo[a]pyrene	7700 U	2500
Dibenzo[a,h]anthracene	7700 U	410
Phenol	2300 U	120 U

MP-SB-72	0 – 2	8 – 10
Arsenic	27.7	497
Chromium	30.6	20.7
Lead	175	--
Mercury	0.98	--
Zinc	381	--
Benzo[a]anthracene	1100	--
Benzo[a]pyrene	1300 J	350 U
Dibenzo[a,h]anthracene	250 J	350 U
Phenol	540 U	100 U

MP-SB-73	0 – 2	0 – 2 DUP	6 – 8
Arsenic	25.4	NA	563
Chromium	45.4	NA	14
Lead	261	NA	
Mercury	0.13	NA	
Zinc	601	NA	
Benzo[a]anthracene	1300	1100	--
Benzo[a]pyrene	1200 J	1100 J	370 U
Dibenzo[a,h]anthracene	2000 U	2000 U	370 U
Phenol	590 U	590 U	110 U

MP-SB-74	0 – 2	8 – 10
Arsenic	129	90.2
Chromium	9.4	17.5
Mercury	0.31	--
Zinc	--	107
Benzo[a]pyrene	160 J	420 U
Dibenzo[a,h]anthracene	370 U	420 U
Phenol	110 U	130 U

MP-SB-69	0 – 2	4 – 6
Arsenic	16.4	
Chromium	15.3	17.9
Mercury	0.22	0.21
Zinc	--	106
Benzo[a]pyrene	--	370 U
Dibenzo[a,h]anthracene	350 U	370 U
Phenol	110 U	110 U

MP-SB-65	0 – 2	6 – 8
Arsenic	29.3	--
Chromium	23.9	24.1
Lead	58.1	660
Mercury	0.45	--
1,2-Dichloroethane	--	110
Benzo[a]anthracene	1000 U	1000 U
Benzo[a]pyrene	3400 U	3400 U
Dibenzo[a,h]anthracene	3400 U	3400 U
Phenol	1000 U	1000 U

MP-SB-70	0 – 2	4 – 6
Arsenic	51.1	546
Chromium	24.7 E	18.1 E
Lead	60.4	261
Mercury	0.31	0.42
Zinc	--	118
1,2,4-Trichlorobenzene	7300 U	--
Benzo[a]anthracene	940 J	--
Benzo[a]pyrene	780 J	400 U
Dibenzo[a,h]anthracene	7300 U	400 U
Phenol	2200 U	120 U

LG-SB-125	8 – 10
1,2-Dicloroethane	270 U
Benzene	270 U

MP-SB-68	0 – 2	0 – 2 DUP	2 – 4
Arsenic	39.5	50.8	305
Chromium	15.7 E	17.7	10.6 E
Lead	38.8	38.8	121
Mercury	0.11 B	--	0.13
Zinc	--	87.6	--
1,2,4-Trichlorobenzene	3500 U	NA	--
Benzo[a]anthracene	1000 U	NA	240
Benzo[a]pyrene	3500 U	NA	280 J
Dibenzo[a,h]anthracene	3500 U	NA	390 U
Phenol	1000 U	NA	120 U

LG-SB-124	6 – 8
1,2-Dicloroethane	290 U
Benzene	290 U

LG-SB-123	6 – 8
1,2-Dicloroethane	340 U
Benzene	340 U

MP-SB-67	0 – 2	0 – 2 DUP	2 – 4
Arsenic	1120	NA	1530
Chromium	30.9 E	NA	
Lead	166	NA	491
Mercury	0.38	NA	0.16
Zinc	243	NA	157
1,2,4-Trichlorobenzene	3800 U	3800 U	
Benzo[a]anthracene	3900	1200	
Benzo[a]pyrene	4100	1200 J	130 J
Dibenzo[a,h]anthracene	3800 U	3800 U	380 U
Phenol	1200 U	1100 U	120 U

MP-SB-66	0 – 2	4 – 6
Arsenic	12.4	301
Zinc	--	174
1,2,4-Trichlorobenzene	3600 U	--
Benzo[a]anthracene	1100 U	--
Benzo[a]pyrene	3600 U	--
Dibenzo[a,h]anthracene	3600 U	370 U
Phenol	1100 U	110 U

MP-SB-64	0 – 2
Arsenic	7.8 E
Chromium	41.5
Mercury	0.11
Zinc	256

MP-SB-75	0 – 2	4 – 6
Arsenic	11.4	
Chromium	180	147000
Lead	49.5	901
Mercury	0.42	0.74
Zinc	93.4	89.5
1,2-Dichloroethane	--	27000 U
Benzene	--	27000 U
Chlorobenzene	--	27000 U
Toluene	--	27000 U
Xylenes (total)	--	27000 U
1,2,4-Trichlorobenzene	--	630000
1,2-Dichlorobenzene	--	86000 U
Benzo[a]anthracene	710	26000 U
Benzo[a]pyrene	660 J	86000 U
Dibenzo[a,h]anthracene	1700 U	86000 U
Phenol	530 U	26000 U

MP-SB-76	0 – 2	4 – 6
Arsenic	1260	149
Chromium	101	46.1
Lead	395	71.7
Mercury	0.33	0.55
Zinc	135	228
Benzene	--	560
Chlorobenzene	--	4000 E
1,2,4-Trichlorobenzene	--	10000 U
1,2-Dichlorobenzene	--	10000 U

MP-SB-61	0 – 2	4 – 6
Arsenic	107 E	--
Chromium	73.4	2960
Lead	42.7	47.4
Mercury	0.17	0.19 B
Zinc	--	3950

MP-SB-60	4 – 6
Arsenic	7.6 E
Chromium	809
Lead	32.6
Mercury	0.21
Zinc	1520

MP-SB-62	0 – 2	2 – 4	4 – 6
Arsenic	51.1 E	--	411 E
Chromium	349	--	2030
Lead	106	--	667
Mercury	1.4	--	4.9
Zinc	2540	--	15200
1,2-Dichloroethane	--	--	510 U
Benzene	--	210	13000 D

MP-SB-63	0 – 2	2 – 4
Arsenic	43.8 E	51.6 E
Chromium	255	598
Lead	257	331
Mercury	3.3	3.7
Zinc	576	602

NYSDEC Recommended Soil Cleanup Objectives (RSCOs)	
Arsenic	7.5
Chromium	10
Lead	24.75
Mercury	0.1
Zinc	87
1,2-Dichloroethane	100
Benzene	60
Chlorobenzene	1700
Toluene	1500
Xylenes (total)	1200
1,2,4-Trichlorobenzene	3400
1,2-Dichlorobenzene	7900
Benzo[a]anthracene	224
Benzo[a]pyrene	61J
Dibenzo[a,h]anthracene	14U
Phenol	30 U

LEGEND

LOCATION PREFIXES
- LG – LAGOON
- MP – MAIN PLANT
- LF – LANDFILL
- ST – ORGANICHEM PROPERTY (FORMERLY STERLING ORGANICS)

- EXISTING BUILDING
- FORMER BUILDING
- FORMER OR EXISTING ALLEGED UNDERGROUND TANK OR PIT
- C E O U D — DESIGNATES POTENTIAL AREA OF INTEREST, TABLE 3-1 "REMEDIAL INVESTIGATION WORKPLAN" MALCOLM PIRNIE, INC., 1998
- STORM SEWER GRATE
- OVERHEAD UTILITY SUPPORTS
- BARBED WIRE FENCE
- CHAINLINK FENCE
- MP-SB-1 — LOCATION AND DESIGNATION OF SOIL BORING SAMPLED DURING RI AND SUPPLEMENTAL RI
- LG-MH-7 — LOCATION AND DESIGNATION OF SEWER BEDDING GROUNDWATER SAMPLING POINT
- LG-MW-1 — LOCATION AND DESIGNATION OF MONITORING WELL
- MP-PP-5 — LOCATION AND DESIGNATION OF PERFORATED PIPE RISER
- LF-PZ-5 — LOCATION AND DESIGNATION OF PIEZOMETER
- MP-SB-61 — LOCATION AND DESIGNATION OF SOIL BORING

DESIGNATION OF SOIL BORING; SAMPLE DEPTH IN FEET BELOW LAND SURFACE

ANALYTE	MP-SB-70	0 – 2	4 – 6
	Arsenic	51.1	546
	Chromium	24.7 E	18.1 E
	Lead	60.4	261
	Mercury	0.31	0.42
	Zinc	--	118
	1,2,4-Trichlorobenzene	7300 U	--
	Benzo[a]anthracene	940 J	--
	Benzo[a]pyrene	780 J	400 U
	Dibenzo[a,h]anthracene	7300 U	400 U
	Phenol	2200 U	120 U

E – ESTIMATED CONCENTRATION

U – NOT DETECTED; DETECTED LIMIT SHOWN

J – ESTIMATED CONCENTRATION

D – DILUTED SAMPLE

DUP – DUPLICATE

NA – NOT ANALYZED

100' 0 100'

NOTES:

1. CONSTITUENTS OF CONCERNS IDENTIFIED FOR SOILS ARE SUMMARIZED IN THE REPORT TEXT.
2. BASE MAP ADAPTED FROM PLATE 1, "REMEDIAL INVESTIGATION WORKPLAN" (MALCOLM PIRNIE, INC., 1998)
3. ONLY CONSTITUENTS OF CONCERN WITH DETECTIONS OR DETECTION LIMITS ABOVE NYSDEC RSCOs ARE SUMMARIZED ON THIS PLATE

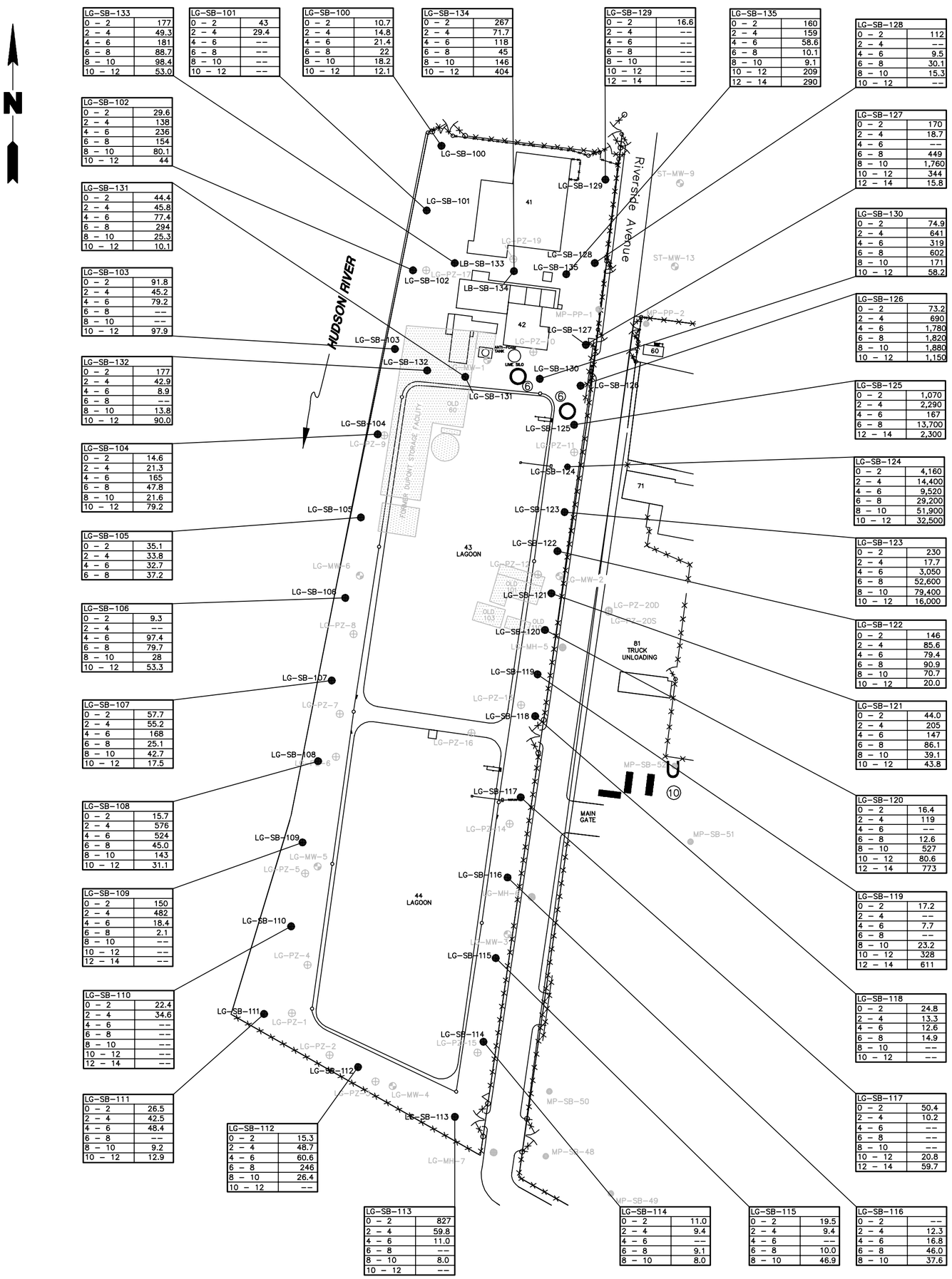
Title:
SUMMARY OF CONSTITUENTS OF CONCERN DETECTED ABOVE NYSDEC RSCOs IN MAIN PLANT SOIL

ADDITIONAL RI ACTIVITIES
RENSSELAER, NEW YORK FACILITY

Prepared For:
BASF CORPORATION
MOUNT OLIVE, NEW JERSEY

ROUX ASSOCIATES, INC. *Environmental Consulting & Management*

Compiled by: M.R.	Date: 30JUL01	PLATE
Prepared by: R.K.	Scale: AS SHOWN	4
Project Mgr: N.E.	Office: NY	
File No: BF1115831	Project: 25111Y04	



LG-SB-133	
0 – 2	177
2 – 4	49.3
4 – 6	181
6 – 8	88.7
8 – 10	98.4
10 – 12	53.0

LG-SB-101	
0 – 2	43
2 – 4	29.4
4 – 6	––
6 – 8	––
8 – 10	––
10 – 12	––

LG-SB-100	
0 – 2	10.7
2 – 4	14.8
4 – 6	21.4
6 – 8	22
8 – 10	18.2
10 – 12	12.1

LG-SB-134	
0 – 2	267
2 – 4	71.7
4 – 6	118
6 – 8	45
8 – 10	146
10 – 12	404

LG-SB-129	
0 – 2	16.6
2 – 4	––
4 – 6	––
6 – 8	––
8 – 10	––
10 – 12	––
12 – 14	––

LG-SB-135	
0 – 2	160
2 – 4	159
4 – 6	58.6
6 – 8	10.1
8 – 10	9.1
10 – 12	209
12 – 14	290

LG-SB-128	
0 – 2	112
2 – 4	––
4 – 6	9.5
6 – 8	30.1
8 – 10	15.3
10 – 12	––

LG-SB-102	
0 – 2	29.6
2 – 4	138
4 – 6	236
6 – 8	154
8 – 10	80.1
10 – 12	44

LG-SB-127	
0 – 2	170
2 – 4	18.7
4 – 6	––
6 – 8	449
8 – 10	1,760
10 – 12	344
12 – 14	15.8

LG-SB-131	
0 – 2	44.4
2 – 4	45.8
4 – 6	77.4
6 – 8	294
8 – 10	25.3
10 – 12	10.1

LG-SB-130	
0 – 2	74.9
2 – 4	641
4 – 6	319
6 – 8	602
8 – 10	171
10 – 12	58.2

LG-SB-103	
0 – 2	91.8
2 – 4	45.2
4 – 6	79.2
6 – 8	––
8 – 10	––
10 – 12	97.9

LG-SB-126	
0 – 2	73.2
2 – 4	690
4 – 6	1,780
6 – 8	1,820
8 – 10	1,880
10 – 12	1,150

LG-SB-132	
0 – 2	177
2 – 4	42.9
4 – 6	8.9
6 – 8	––
8 – 10	13.8
10 – 12	90.0

LG-SB-125	
0 – 2	1,070
2 – 4	2,290
4 – 6	167
6 – 8	13,700
12 – 14	2,300

LG-SB-104	
0 – 2	14.6
2 – 4	21.3
4 – 6	165
6 – 8	47.8
8 – 10	21.6
10 – 12	79.2

LG-SB-124	
0 – 2	4,160
2 – 4	14,400
4 – 6	9,520
6 – 8	29,200
8 – 10	51,900
10 – 12	32,500

LG-SB-105	
0 – 2	35.1
2 – 4	33.8
4 – 6	32.7
6 – 8	37.2

LG-SB-123	
0 – 2	230
2 – 4	17.7
4 – 6	3,050
6 – 8	52,600
8 – 10	79,400
10 – 12	16,000

LG-SB-106	
0 – 2	9.3
2 – 4	––
4 – 6	97.4
6 – 8	79.7
8 – 10	28
10 – 12	53.3

LG-SB-122	
0 – 2	146
2 – 4	85.6
4 – 6	79.4
6 – 8	90.9
8 – 10	70.7
10 – 12	20.0

LG-SB-107	
0 – 2	57.7
2 – 4	55.2
4 – 6	168
6 – 8	25.1
8 – 10	42.7
10 – 12	17.5

LG-SB-121	
0 – 2	44.0
2 – 4	205
4 – 6	147
6 – 8	86.1
8 – 10	39.1
10 – 12	43.8

LG-SB-108	
0 – 2	15.7
2 – 4	576
4 – 6	524
6 – 8	45.0
8 – 10	143
10 – 12	31.1

LG-SB-120	
0 – 2	16.4
2 – 4	119
4 – 6	––
6 – 8	12.6
8 – 10	527
10 – 12	80.6
12 – 14	773

LG-SB-109	
0 – 2	150
2 – 4	482
4 – 6	18.4
6 – 8	2.1
8 – 10	––
10 – 12	––
12 – 14	––

LG-SB-119	
0 – 2	17.2
2 – 4	––
4 – 6	7.7
6 – 8	––
8 – 10	23.2
10 – 12	328
12 – 14	611

LG-SB-110	
0 – 2	22.4
2 – 4	34.6
4 – 6	––
6 – 8	––
8 – 10	––
10 – 12	––
12 – 14	––

LG-SB-118	
0 – 2	24.8
2 – 4	13.3
4 – 6	12.6
6 – 8	14.9
8 – 10	––
10 – 12	––

LG-SB-111	
0 – 2	26.5
2 – 4	42.5
4 – 6	48.4
6 – 8	––
8 – 10	9.2
10 – 12	12.9

LG-SB-117	
0 – 2	50.4
2 – 4	10.2
4 – 6	––
6 – 8	––
8 – 10	––
10 – 12	20.8
12 – 14	59.7

LG-SB-112	
0 – 2	15.3
2 – 4	48.7
4 – 6	60.6
6 – 8	246
8 – 10	26.4
10 – 12	––

LG-SB-116	
0 – 2	––
2 – 4	12.3
4 – 6	16.8
6 – 8	46.0
8 – 10	37.6

LG-SB-113	
0 – 2	827
2 – 4	59.8
4 – 6	11.0
6 – 8	––
8 – 10	8.0
10 – 12	––

LG-SB-114	
0 – 2	11.0
2 – 4	9.4
4 – 6	––
6 – 8	9.1
8 – 10	8.0

LG-SB-115	
0 – 2	19.5
2 – 4	9.4
4 – 6	––
6 – 8	10.0
8 – 10	46.9

LEGEND

LOCATION PREFIXES
- LG – LAGOON
- MP – MAIN PLANT
- LF – LANDFILL
- ST – ORGANICHEM PROPERTY (FORMERLY STERLING ORGANICS)

EXISTING BUILDING

FORMER BUILDING

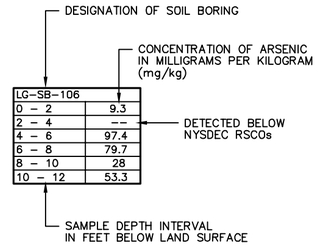
FORMER OR EXISTING ALLEGED UNDERGROUND TANK OR PIT

C① E① O① U① D① — DESIGNATES POTENTIAL AREA OF INTEREST, TABLE 3-1 "REMEDIAL INVESTIGATION WORKPLAN" MALCOM PIRNIE, INC., 1998

CHAINLINK FENCE

PRE-DESIGN INVESTIGATION AND OTHER HISTORIC SAMPLING LOCATIONS

- MP-SB-61 ● — LOCATION AND DESIGNATION OF SOIL BORING
- LG-MH-7 ● — LOCATION AND DESIGNATION OF SEWER BEDDING GROUNDWATER SAMPLING POINT
- MP-SB-114 ● — LOCATION AND DESIGNATION OF SOIL BORING SAMPLED DURING RI AND SUPPLEMENTAL RI
- MP-PP-5 ● — LOCATION AND DESIGNATION OF PERFORATED PIPE SAMPLING POINT
- LG-PZ-5 ⊕ — LOCATION AND DESIGNATION OF PIEZOMETER
- LG-MW-4 ⊕ — LOCATION AND DESIGNATION OF MONITORING WELL



RSCO – RECOMMENDED SOIL CLEANUP OBJECTIVES

NOTE:

1. NYSDEC RSCO FOR ARSENIC = 7.5 mg/kg

100' 0 100'

Title:

SUMMARY OF ARSENIC DETECTED ABOVE NYSDEC RSCOs IN LAGOON AREA SOILS

ADDITIONAL RI ACTIVITIES
RENSSELAER, NEW YORK FACILITY

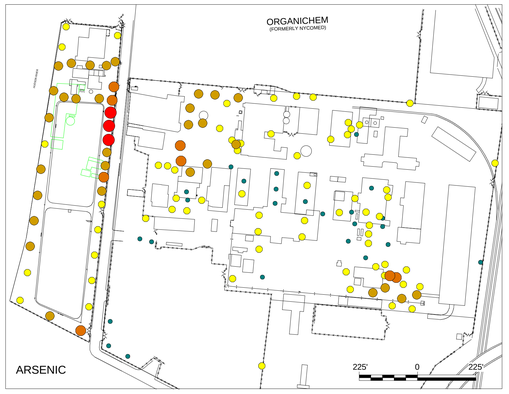
Prepared For:

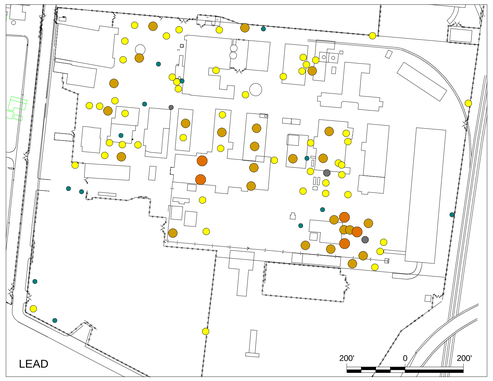
BASF CORPORATION
MOUNT OLIVE, NEW JERSEY

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

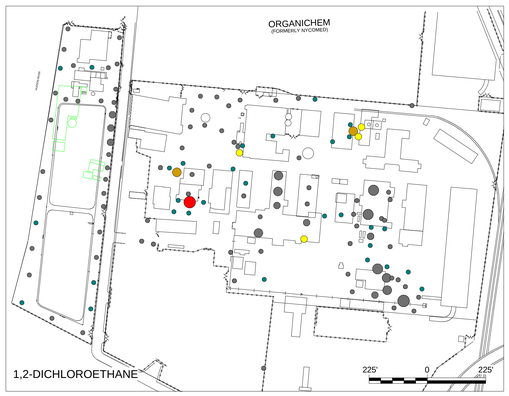
Compiled by: M.R.	Date: 8/3/01	PLATE
Prepared by: B.H.C.	Scale: AS SHOWN	5
Project Mgr: N.E.	Office: NY	
File No: BF1115802	Project: 25111Y04	

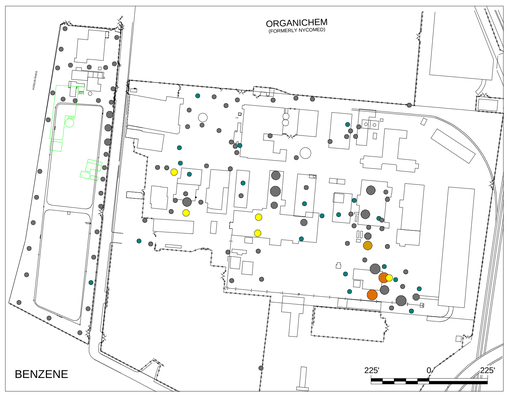
METALS

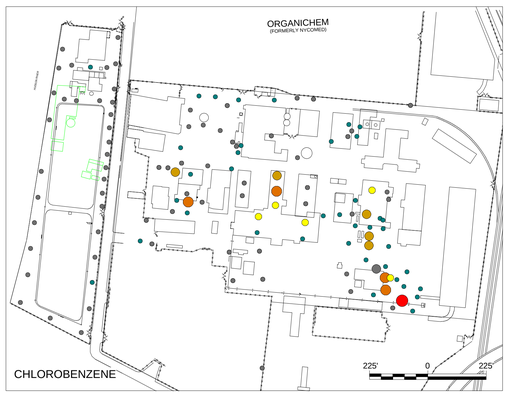


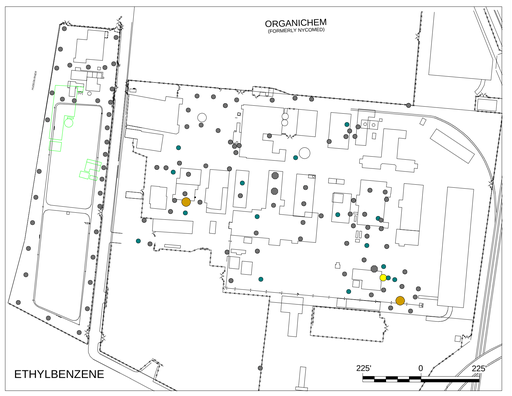


VOCs

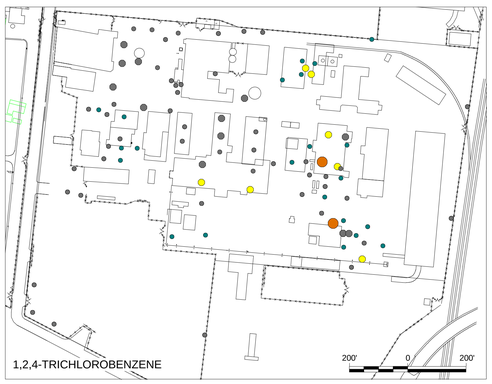


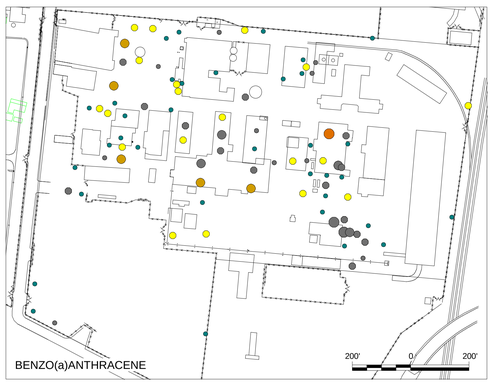


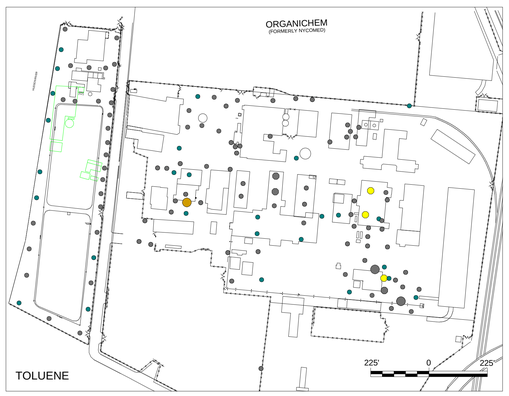


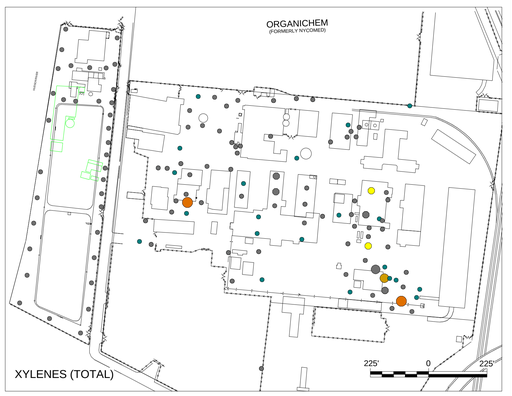


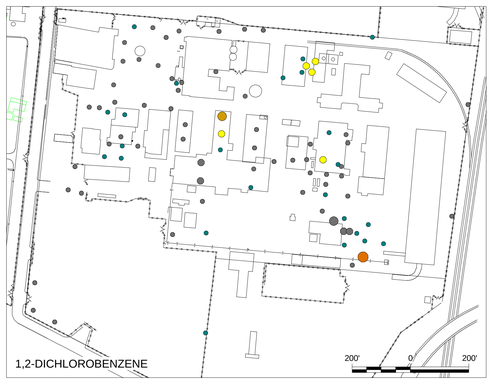
SVOCs

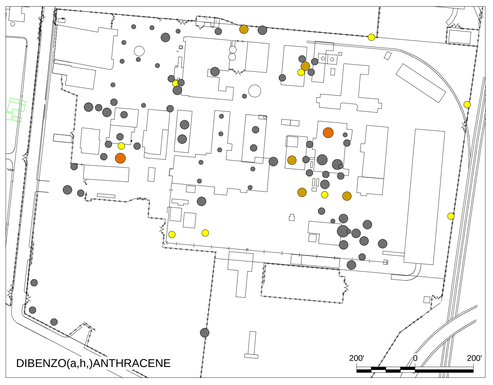












SOIL CONCENTRATIONS RELATIVE TO NYSDEC RSCOs

- GREATER THAN 1,000 TIMES NYSDEC RSCOs
- 100 TO LESS THAN 1,000 TIMES NYSDEC RSCOs
- 10 TO LESS THAN 100 TIMES NYSDEC RSCOs
- 1 TO LESS THAN 10 TIMES NYSDEC RSCOs
- LESS THAN NYSDEC RSCOs
- NOT DETECTED AT CONCENTRATIONS GREATER THAN 1,000 TIMES NYSDEC RSCOs
- NOT DETECTED AT CONCENTRATIONS 100 TO LESS THAN 1,000 TIMES NYSDEC RSCOs
- NOT DETECTED AT CONCENTRATIONS 10 TO LESS THAN 100 TIMES NYSDEC RSCOs
- NOT DETECTED AT CONCENTRATIONS 1 TO LESS THAN 10 TIMES NYSDEC RSCOs
- NOT DETECTED AT CONCENTRATIONS LESS THAN NYSDEC RSCOs

NYSDEC RSCOs : NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION RECOMMENDED SOIL CLEANUP OBJECTIVES

N

Title: **CONSTITUENTS OF CONCERN DETECTED IN SOIL RELATIVE TO NYSDEC RSCOs**

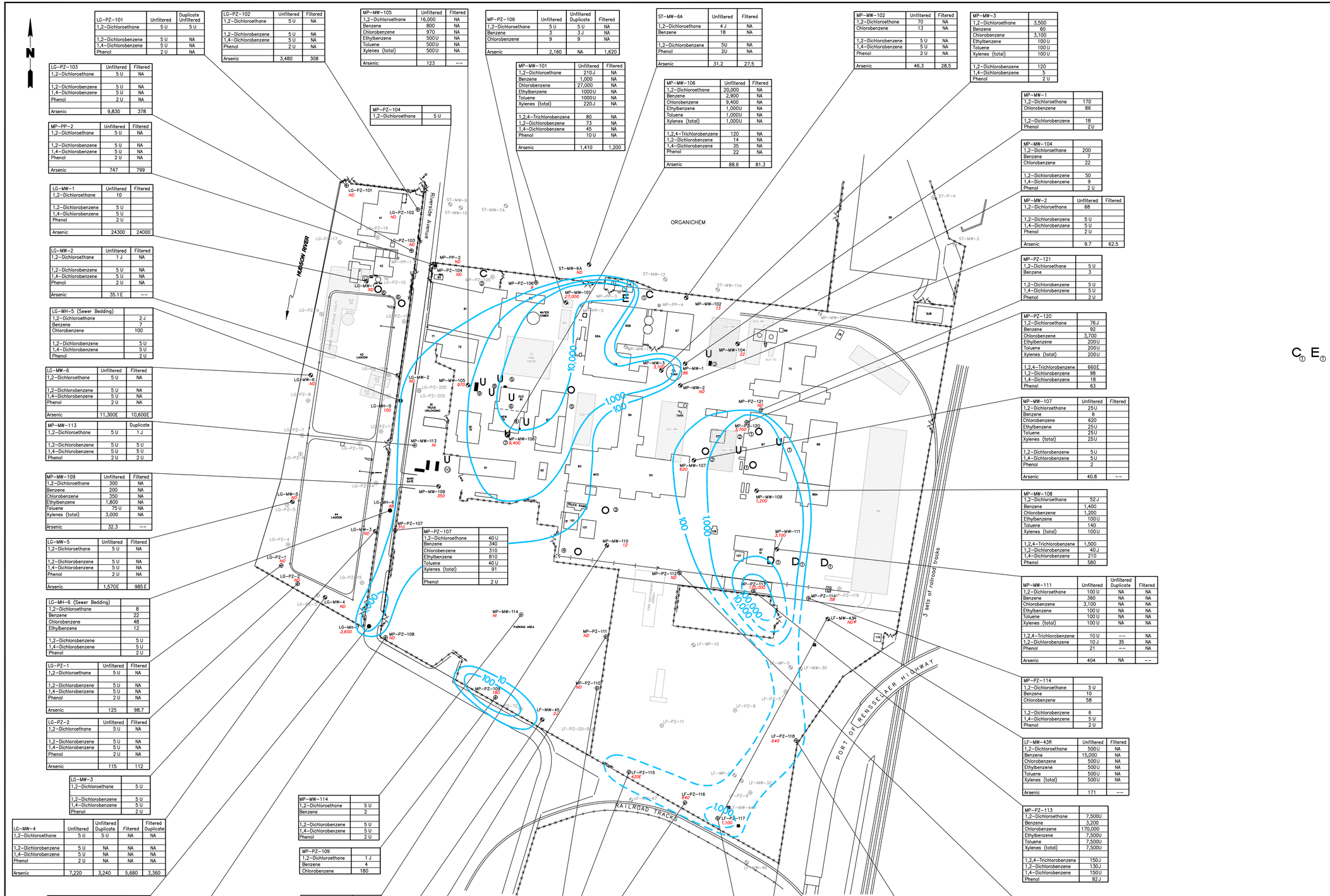
ADDITIONAL RI ACTIVITIES
RENSSELAER, NEW YORK FACILITY

Prepared For:
BASF CORPORATION
MOUNT OLIVE, NEW JERSEY

ROUX ASSOCIATES INC
Environmental Consulting & Management

Compiled by: S.S.	Date: 8/03/01
Prepared by: S.S.	Scale: AS SHOWN
Project Mgr: N.E.	Office: NY
File No: BF1115806	Project: 25111Y04

PLATE 6



LG-PZ-101	Unfiltered	Duplicate Unfiltered
1,2-Dichloroethane	5 U	5 U
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA

LG-PZ-102	Unfiltered	Filtered
1,2-Dichloroethane	5 U	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Arsenic	3,480	308

MP-MW-105	Unfiltered	Filtered
1,2-Dichloroethane	16,000	NA
Benzene	800	NA
Chlorobenzene	970	NA
Ethylbenzene	500U	NA
Toluene	500U	NA
Xylenes (total)	500U	NA
Arsenic	123	--

MP-PZ-106	Unfiltered	Unfiltered Duplicate	Filtered
1,2-Dichloroethane	5 U	5 U	NA
Benzene	3	3 J	NA
Chlorobenzene	9	9	NA
Arsenic	2,160	NA	1,620

ST-MW-6A	Unfiltered	Filtered
1,2-Dichloroethane	4 J	NA
Benzene	18	NA
1,2-Dichlorobenzene	5U	NA
Phenol	2U	NA
Arsenic	31.2	27.5

MP-MW-102	Unfiltered	Filtered
1,2-Dichloroethane	70	NA
Chlorobenzene	13	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Arsenic	46.3	28.5

MP-MW-3	
1,2-Dichloroethane	3,500
Benzene	60
Chlorobenzene	3,100
Ethylbenzene	100 U
Toluene	100 U
Xylenes (total)	100 U
1,2-Dichlorobenzene	120
1,4-Dichlorobenzene	5
Phenol	2 U

LG-PZ-103	Unfiltered	Filtered
1,2-Dichloroethane	5 U	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Arsenic	9,830	378

MP-PZ-104	
1,2-Dichloroethane	5 U

MP-MW-101	Unfiltered	Filtered
1,2-Dichloroethane	210 J	NA
Benzene	1,000	NA
Chlorobenzene	27,000	NA
Ethylbenzene	1000 U	NA
Toluene	1000 U	NA
Xylenes (total)	220 J	NA
1,2,4-Trichlorobenzene	80	NA
1,2-Dichlorobenzene	73	NA
1,4-Dichlorobenzene	45	NA
Phenol	10 U	NA
Arsenic	1,410	1,200

MP-MW-106	Unfiltered	Filtered
1,2-Dichloroethane	20,000	NA
Benzene	2,900	NA
Chlorobenzene	9,400	NA
Ethylbenzene	1,000U	NA
Toluene	1,000U	NA
Xylenes (total)	1,000U	NA
1,2,4-Trichlorobenzene	120	NA
1,2-Dichlorobenzene	14	NA
1,4-Dichlorobenzene	35	NA
Phenol	22	NA
Arsenic	88.6	81.3

MP-MW-1	
1,2-Dichloroethane	170
Chlorobenzene	86
1,2-Dichlorobenzene	18
Phenol	2 U

MP-MW-104	
1,2-Dichloroethane	200
Benzene	7
Chlorobenzene	22
1,2-Dichlorobenzene	50
1,4-Dichlorobenzene	9
Phenol	2 U

MP-PP-2	Unfiltered	Filtered
1,2-Dichloroethane	5 U	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Arsenic	747	799

MP-MW-2	Unfiltered	Filtered
1,2-Dichloroethane	68	
1,2-Dichlorobenzene	5 U	
1,4-Dichlorobenzene	5 U	
Phenol	2 U	
Arsenic	9.7	62.5

LG-MW-1	Unfiltered	Filtered
1,2-Dichloroethane	10	
1,2-Dichlorobenzene	5 U	
1,4-Dichlorobenzene	5 U	
Phenol	2 U	
Arsenic	24300	24000

MP-PZ-121	
1,2-Dichloroethane	5 U
Benzene	3
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

LG-MW-2	Unfiltered	Filtered
1,2-Dichloroethane	1 J	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Arsenic	35.1 E	--

MP-PZ-120	
1,2-Dichloroethane	76 J
Benzene	92
Chlorobenzene	3,700
Ethylbenzene	200 U
Toluene	200 U
Xylenes (total)	200 U
1,2,4-Trichlorobenzene	660 E
1,2-Dichlorobenzene	98
1,4-Dichlorobenzene	18
Phenol	63

LG-MH-5 (Sewer Bedding)	
1,2-Dichloroethane	2 J
Benzene	7
Chlorobenzene	100
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

MP-MW-107	Unfiltered	Filtered
1,2-Dichloroethane	25 U	
Benzene	6	
Chlorobenzene	620	
Ethylbenzene	25 U	
Toluene	25 U	
Xylenes (total)	25 U	
1,2-Dichlorobenzene	5 U	
1,4-Dichlorobenzene	5 U	
Phenol	2	
Arsenic	40.8	--

LG-MW-6	Unfiltered	Filtered
1,2-Dichloroethane	5 U	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Arsenic	11,300E	10,600E

MP-MW-113		Duplicate
1,2-Dichloroethane	5 U	1 J
1,2-Dichlorobenzene	5 U	5 U
1,4-Dichlorobenzene	5 U	5 U
Phenol	2 U	2 U

MP-MW-108	
1,2-Dichloroethane	52 J
Benzene	1,400
Chlorobenzene	1,200
Ethylbenzene	100 U
Toluene	140
Xylenes (total)	100 U
1,2,4-Trichlorobenzene	1,500
1,2-Dichlorobenzene	40 J
1,4-Dichlorobenzene	210
Phenol	580

MP-MW-109	Unfiltered	Filtered
1,2-Dichloroethane	300	NA
Benzene	200	NA
Chlorobenzene	350	NA
Ethylbenzene	1,800	NA
Toluene	75 U	NA
Xylenes (total)	3,000	NA
Arsenic	32.3	--

MP-PZ-107	
1,2-Dichloroethane	40 U
Benzene	340
Chlorobenzene	310
Ethylbenzene	810
Toluene	40 U
Xylenes (total)	91
Phenol	2 U

MP-MW-111	Unfiltered	Unfiltered Duplicate	Filtered
1,2-Dichloroethane	100 U	NA	NA
Benzene	360	NA	NA
Chlorobenzene	3,100	NA	NA
Ethylbenzene	100 U	NA	NA
Toluene	100 U	NA	NA
Xylenes (total)	100 U	NA	NA
1,2,4-Trichlorobenzene	10 U	--	NA
1,2-Dichlorobenzene	10 J	35	NA
Phenol	21	--	NA
Arsenic	404	NA	--

LG-MW-5	Unfiltered	Filtered
1,2-Dichloroethane	5 U	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Arsenic	1,570E	985 E

MP-PZ-114	
1,2-Dichloroethane	5 U
Benzene	10
Chlorobenzene	58
1,2-Dichlorobenzene	6
1,4-Dichlorobenzene	5 U
Phenol	2 U

LG-MW-6 (Sewer Bedding)	
1,2-Dichloroethane	8
Benzene	22
Chlorobenzene	48
Ethylbenzene	12
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

LF-MW-43R	Unfiltered	Filtered
1,2-Dichloroethane	500 U	NA
Benzene	15,000	NA
Chlorobenzene	500 U	NA
Ethylbenzene	500 U	NA
Toluene	500 U	NA
Xylenes (total)	500 U	NA
Arsenic	171	--

LG-PZ-1	Unfiltered	Filtered
1,2-Dichloroethane	5 U	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Arsenic	125	98.7

MP-PZ-113	
1,2-Dichloroethane	7,500U
Benzene	3,200
Chlorobenzene	170,000
Ethylbenzene	7,500U
Toluene	7,500U
Xylenes (total)	7,500U
1,2,4-Trichlorobenzene	150J
1,2-Dichlorobenzene	130J
1,4-Dichlorobenzene	150U
Phenol	92 J

LG-PZ-2	Unfiltered	Filtered
1,2-Dichloroethane	5 U	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Arsenic	115	112

LG-MW-3	
1,2-Dichloroethane	5 U
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

MP-MW-114	
1,2-Dichloroethane	5 U
Benzene	2
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

MP-PZ-112	
1,2-Dichloroethane	5 U
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

LG-MW-4	Unfiltered	Unfiltered Duplicate	Filtered	Filtered Duplicate
1,2-Dichloroethane	5 U	5 U	NA	NA
1,2-Dichlorobenzene	5 U	NA	NA	NA
1,4-Dichlorobenzene	5 U	NA	NA	NA
Phenol	2 U	NA	NA	NA
Arsenic	7,220	3,240	5,680	3,360

MP-PZ-109	
1,2-Dichloroethane	1 J
Benzene	4
Chlorobenzene	180

MP-MW-110	
1,2-Dichloroethane	1 J
Chlorobenzene	12
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

LG-MH-7 (Sewer Bedding)	
1,2-Dichloroethane	120 U
Benzene	130
Chlorobenzene	2,600
Ethylbenzene	120 U
Toluene	120 U
Xylenes (total)	120 U
1,2-Dichlorobenzene	9
1,4-Dichlorobenzene	4 J
Phenol	2 U

MP-PZ-110	
1,2-Dichloroethane	5 U

LF-PZ-116	
1,2-Dichloroethane	25 U
Benzene	11
Chlorobenzene	640
Ethylbenzene	25 U
Toluene	25 U
Xylenes (total)	25 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

LF-PZ-117	
1,2-Dichloroethane	50 U
Benzene	7 U
Chlorobenzene	1,100
Ethylbenzene	50 U
Toluene	50 U
Xylenes (total)	50 U
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

LF-PZ-118	
1,2-Dichloroethane	25 U
Benzene	110
Chlorobenzene	640
Ethylbenzene	11 J
Toluene	25 U
Xylenes (total)	15 J
1,2,4-Trichlorobenzene	11 J
1,2-Dichlorobenzene	25 U
1,4-Dichlorobenzene	25
Phenol	10 U

LF-PZ-115	
1,2-Dichloroethane	5 U
Benzene	10
Chlorobenzene	420E
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

MP-MW-111	
1,2-Dichloroethane	5 U
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

LF-MW-45	
1,2-Dichloroethane	5 U
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

MP-PZ-108	
1,2-Dichloroethane	5 U
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

Analyte	NYS AWQS (ug/L)
1,2-Dichloroethane	0.6
Benzene	1
Chlorobenzene	5
Ethylbenzene	5
Toluene	5
Xylenes (total)	5
1,2,4-Trichlorobenzene	5
1,2-Dichlorobenzene	3
1,4-Dichlorobenzene	3
Phenol	1
Arsenic	25

NYS AWQS – New York State Ambient Water Quality Standards

ug/L – Micrograms per liter

LEGEND

LOCATION PREFIXES
LG – LAGOON
MP – MAIN PLANT
LF – LANDFILL
ST – ORGANICHEM PROPERTY (FORMERLY STERLING ORGANICS)

EXISTING BUILDING

FORMER BUILDING

FORMER OR EXISTING ALLEGED UNDERGROUND TANK OR PIT

C① E① O① U① D①

TABLE 3-1 "REMEDIAL INVESTIGATION WORKPLAN" MALCOLM PIRNIE, INC., 1998

STORM SEWER GRATE

OVERHEAD UTILITY SUPPORTS

BARBED WIRE FENCE

CHAINLINK FENCE

MP-MW-103 — LOCATION AND DESIGNATION OF MONITORING WELL (NOT SAMPLED DURING ADDITIONAL RI ACTIVITIES)

LF-PZ-5 — LOCATION AND DESIGNATION OF PIEZOMETER (NOT SAMPLED DURING ADDITIONAL RI ACTIVITIES)

LG-MH-7 — LOCATION AND DESIGNATION OF SEWER BEDDING GROUNDWATER SAMPLING POINT

LG-MW-1 — LOCATION AND DESIGNATION OF MONITORING WELL

MP-PP-5 — LOCATION AND DESIGNATION OF PERFORATED PIPE RISER

LF-PZ-5 — LOCATION AND DESIGNATION OF PIEZOMETER

MP-MW-114 — LOCATION AND DESIGNATION OF MONITORING WELL (LOWER AQUIFER)

MP-MW-111	Unfiltered	Unfiltered Duplicate	Filtered
1,2-Dichloroethane	100 U	NA	NA
Benzene	360	NA	NA
Chlorobenzene	3,100	NA	NA
Ethylbenzene	100 U	NA	NA
Toluene	100 U	NA	NA
Xylenes (total)	100 U	NA	NA
1,2,4-Trichlorobenzene	10 U	--	NA
1,2-Dichlorobenzene	10 J	35	NA
Phenol	21	--	NA
Arsenic	404	NA	--

CONCENTRATIONS IN ug/L

U – NOT DETECTED WITH DETECTION LIMIT ABOVE NYS AWQS; DETECTION LIMIT SHOWN

J – ESTIMATED CONCENTRATION

E – EXCEEDED CALIBRATION RANGE

NA – NOT ANALYZED

-- – NOT DETECTED OR DETECTED BELOW NYS AWQS

MP-MW-106 / 9,400 — CHLOROBENZENE CONCENTRATION IN ug/L

NS – NOT SAMPLED

ND* – CHLOROBENZENE NOT DETECTED WITH DETECTION LIMIT GREATER THAN 10x NYS AWQS

NI – CONCENTRATIONS NOT INCLUDED IN CONTOURING BECAUSE WELL DOES NOT SCREEN THE FILL MATERIAL

100 — ISOPLETH OF EQUAL CHLOROBENZENE CONCENTRATION IN ug/L (DASHED WHERE INFERRED)

125' 0 125'

NOTE:

(1) BASE MAP ADAPTED FROM PLATE 1, "REMEDIAL INVESTIGATION WORKPLAN" (MALCOLM PIRNIE, INC., 1998)

Title:

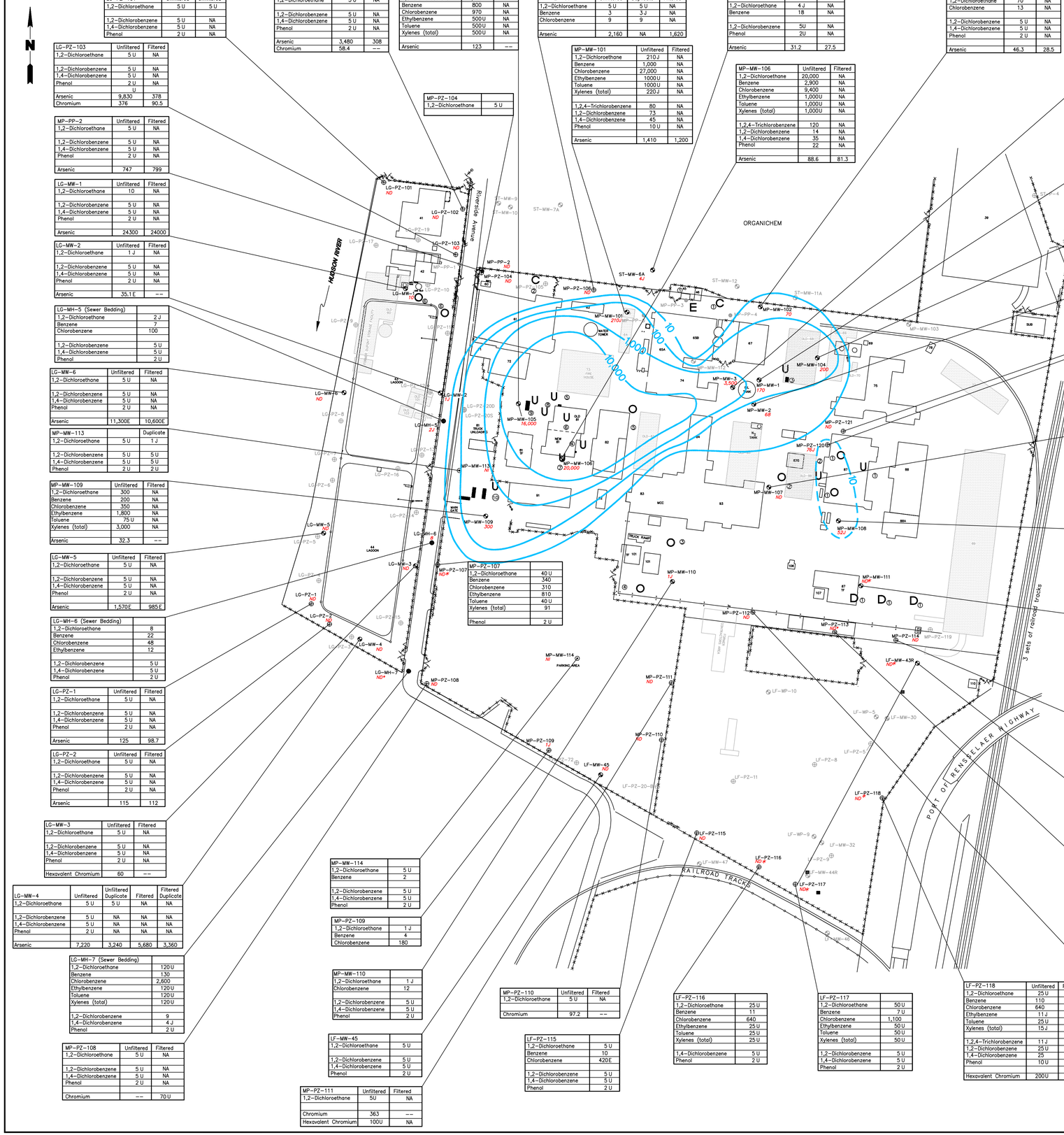
SUMMARY OF CONSTITUENTS OF CONCERN DETECTED ABOVE NYS AWQS IN GROUNDWATER (CHLOROBENZENE ISOCONCENTRATIONS)

ADDITIONAL RI ACTIVITIES
RENSSELAER, NEW YORK FACILITY

Prepared For:
BASF CORPORATION
MOUNT OLIVE, NEW JERSEY

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: N.E.	Date: 27JUL01	PLATE	
Prepared by: R.K.	Scale: AS SHOWN	7A	
Project Mgr: N.E.	Office: NY		
File No: BF1115821	Project: 25111Y04		



LG-PZ-101	Unfiltered	Duplicate Unfiltered
1,2-Dichloroethane	5 U	5 U
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA

LG-PZ-102	Unfiltered	Filtered
1,2-Dichloroethane	5 U	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Arsenic	3,480	308
Chromium	58.4	--

MP-MW-105	Unfiltered	Filtered
1,2-Dichloroethane	16,000	NA
Benzene	800	NA
Chlorobenzene	970	NA
Ethylbenzene	500 U	NA
Toluene	500 U	NA
Xylenes (total)	500 U	NA
Arsenic	123	--

MP-PZ-106	Unfiltered	Unfiltered Duplicate	Filtered
1,2-Dichloroethane	5 U	5 U	NA
Benzene	3	3 J	NA
Chlorobenzene	9	9	NA
Arsenic	2,160	NA	1,620

ST-MW-6A	Unfiltered	Filtered
1,2-Dichloroethane	4 J	NA
Benzene	18	NA
1,2-Dichlorobenzene	5U	NA
Phenol	2U	NA
Arsenic	31.2	27.5

MP-MW-102	Unfiltered	Filtered
1,2-Dichloroethane	70	NA
Chlorobenzene	13	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Arsenic	46.3	28.5

MP-MW-3	Unfiltered	Filtered
1,2-Dichloroethane	3,500	NA
Benzene	60	NA
Chlorobenzene	3,100	NA
Ethylbenzene	100 U	NA
Toluene	100 U	NA
Xylenes (total)	100 U	NA
1,2-Dichlorobenzene	120	NA
1,4-Dichlorobenzene	5	NA
Phenol	2 U	NA
Chromium	59.9	--
Hexavalent Chromium	500 U	--

MP-PZ-104
1,2-Dichloroethane	5 U

MP-MW-101	Unfiltered	Filtered
1,2-Dichloroethane	210 J	NA
Benzene	1,000	NA
Chlorobenzene	27,000	NA
Ethylbenzene	1000 U	NA
Toluene	1000 U	NA
Xylenes (total)	220 J	NA
1,2,4-Trichlorobenzene	80	NA
1,2-Dichlorobenzene	73	NA
1,4-Dichlorobenzene	45	NA
Phenol	10 U	NA
Arsenic	1,410	1,200

MP-MW-106	Unfiltered	Filtered
1,2-Dichloroethane	20,000	NA
Benzene	2,900	NA
Chlorobenzene	9,400	NA
Ethylbenzene	1,000U	NA
Toluene	1,000U	NA
Xylenes (total)	1,000U	NA
1,2,4-Trichlorobenzene	120	NA
1,2-Dichlorobenzene	14	NA
1,4-Dichlorobenzene	35	NA
Phenol	22	NA
Arsenic	88.6	81.3

LG-PZ-103	Unfiltered	Filtered
1,2-Dichloroethane	5 U	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
	U	
Arsenic	9,830	378
Chromium	376	90.5

MP-PP-2	Unfiltered	Filtered
1,2-Dichloroethane	5 U	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Arsenic	747	799

LG-MW-1	Unfiltered	Filtered
1,2-Dichloroethane	10	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Arsenic	24300	24000

LG-MW-2	Unfiltered	Filtered
1,2-Dichloroethane	1 J	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Arsenic	35.1 E	--

LG-MH-5 (Sewer Bedding)	
1,2-Dichloroethane	2 J
Benzene	7
Chlorobenzene	100
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

LG-MW-6	Unfiltered	Filtered
1,2-Dichloroethane	5 U	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Arsenic	11,300E	10,600E

MP-MW-113		Duplicate
1,2-Dichloroethane	5 U	1 J
1,2-Dichlorobenzene	5 U	5 U
1,4-Dichlorobenzene	5 U	5 U
Phenol	2 U	2 U

MP-MW-109	Unfiltered	Filtered
1,2-Dichloroethane	300	NA
Benzene	200	NA
Chlorobenzene	350	NA
Ethylbenzene	1,800	NA
Toluene	75 U	NA
Xylenes (total)	3,000	NA
Arsenic	32.3	--

LG-MW-5	Unfiltered	Filtered
1,2-Dichloroethane	5 U	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Arsenic	1,570E	985E

LG-MH-6 (Sewer Bedding)	
1,2-Dichloroethane	8
Benzene	22
Chlorobenzene	48
Ethylbenzene	12
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

LG-PZ-1	Unfiltered	Filtered
1,2-Dichloroethane	5 U	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Arsenic	125	98.7

LG-PZ-2	Unfiltered	Filtered
1,2-Dichloroethane	5 U	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Arsenic	115	112

LG-MW-3	Unfiltered	Filtered
1,2-Dichloroethane	5 U	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Hexavalent Chromium	60	--

LG-MW-4	Unfiltered	Unfiltered Duplicate	Filtered	Filtered Duplicate
1,2-Dichloroethane	5 U	5 U	NA	NA
1,2-Dichlorobenzene	5 U	NA	NA	NA
1,4-Dichlorobenzene	5 U	NA	NA	NA
Phenol	2 U	NA	NA	NA
Arsenic	7,220	3,240	5,680	3,360

LG-MH-7 (Sewer Bedding)	
1,2-Dichloroethane	120 U
Benzene	130
Chlorobenzene	2,600
Ethylbenzene	120 U
Toluene	120 U
Xylenes (total)	120 U
1,2-Dichlorobenzene	9
1,4-Dichlorobenzene	4 J
Phenol	2 U

MP-PZ-108	Unfiltered	Filtered
1,2-Dichloroethane	5 U	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Chromium	--	70 U

MP-PZ-107	
1,2-Dichloroethane	40 U
Benzene	340
Chlorobenzene	310
Ethylbenzene	810
Toluene	40 U
Xylenes (total)	91
Phenol	2 U

MP-MW-114	
1,2-Dichloroethane	5 U
Benzene	2
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

MP-PZ-109	
1,2-Dichloroethane	1 J
Benzene	4
Chlorobenzene	180

MP-MW-110	
1,2-Dichloroethane	1 J
Chlorobenzene	12
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

MP-PZ-110	Unfiltered	Filtered
1,2-Dichloroethane	5 U	NA
Chromium	97.2	--

LF-MW-45	
1,2-Dichloroethane	5 U
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

LF-PZ-115	
1,2-Dichloroethane	5 U
Benzene	10
Chlorobenzene	420 E
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

MP-PZ-111	Unfiltered	Filtered
1,2-Dichloroethane	5U	NA
Chromium	363	--
Hexavalent Chromium	100U	NA

LF-PZ-116	
1,2-Dichloroethane	25 U
Benzene	11
Chlorobenzene	640
Ethylbenzene	25 U
Toluene	25 U
Xylenes (total)	25 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

LF-PZ-117	
1,2-Dichloroethane	50 U
Benzene	7 U
Chlorobenzene	1,100
Ethylbenzene	50 U
Toluene	50 U
Xylenes (total)	50 U
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

LF-PZ-118	Unfiltered	Filtered
1,2-Dichloroethane	25 U	NA
Benzene	110	NA
Chlorobenzene	640	NA
Ethylbenzene	11 J	NA
Toluene	25 U	NA
Xylenes (total)	15 J	NA
1,2,4-Trichlorobenzene	11 J	NA
1,2-Dichlorobenzene	25 U	NA
1,4-Dichlorobenzene	25	NA
Phenol	10 U	NA
Hexavalent Chromium	200U	--

MP-MW-1	
1,2-Dichloroethane	170
Chlorobenzene	86
1,2-Dichlorobenzene	18
Phenol	2 U

MP-MW-104	Unfiltered	Filtered
1,2-Dichloroethane	200	NA
Benzene	7	NA
Chlorobenzene	22	NA
1,2-Dichlorobenzene	50	NA
1,4-Dichlorobenzene	9	NA
Phenol	2 U	NA
Hexavalent Chromium	400 U	NA

MP-MW-2	Unfiltered	Filtered
1,2-Dichloroethane	68	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Arsenic	9.7	62.5

MP-PZ-121	
1,2-Dichloroethane	5 U
Benzene	3
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

MP-PZ-120	
1,2-Dichloroethane	76 J
Benzene	92
Chlorobenzene	3,700
Ethylbenzene	200 U
Toluene	200 U
Xylenes (total)	200 U
1,2,4-Trichlorobenzene	660 E
1,2-Dichlorobenzene	98
1,4-Dichlorobenzene	18
Phenol	63

MP-MW-107	Unfiltered	Filtered
1,2-Dichloroethane	25 U	NA
Benzene	6	NA
Chlorobenzene	620	NA
Ethylbenzene	25 U	NA
Toluene	25 U	NA
Xylenes (total)	25 U	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2	NA
Arsenic	40.8	--
Chromium	2,650	--

MP-MW-108	
1,2-Dichloroethane	52 J
Benzene	1,400
Chlorobenzene	1,200
Ethylbenzene	100 U
Toluene	140
Xylenes (total)	100 U
1,2,4-Trichlorobenzene	1,500
1,2-Dichlorobenzene	40 J
1,4-Dichlorobenzene	210
Phenol	580

MP-MW-111	Unfiltered	Unfiltered Duplicate	Filtered
1,2-Dichloroethane	100 U	NA	NA
Benzene	360	NA	NA
Chlorobenzene	3,100	NA	NA
Ethylbenzene	100 U	NA	NA
Toluene	100 U	NA	NA
Xylenes (total)	100 U	NA	NA
1,2,4-Trichlorobenzene	10 U	--	NA
1,2-Dichlorobenzene	10 J	35	NA
Phenol	21	--	NA
Arsenic	404	NA	--
Chromium	164,000	NA	--
Hexavalent Chromium	100 U	NA	NA

MP-PZ-114	Unfiltered	Filtered
1,2-Dichloroethane	5 U	NA
Benzene	10	NA
Chlorobenzene	58	NA
1,2-Dichlorobenzene	6	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Hexavalent Chromium	240,000U	4,000U
Chromium	841	--

LF-MW-43R	Unfiltered	Filtered
1,2-Dichloroethane	500 U	NA
Benzene	15,000	NA
Chlorobenzene	500 U	NA
Ethylbenzene	500 U	NA
Toluene	500 U	NA
Xylenes (total)	500 U	NA
Arsenic	171	--
Hexavalent Chromium	500 U	NA

MP-PZ-113	Unfiltered	Filtered
1,2-Dichloroethane	7,500U	NA
Benzene	3,200	NA
Chlorobenzene	170,000	NA
Ethylbenzene	7,500U	NA
Toluene	7,500U	NA
Xylenes (total)	7,500U	NA
1,2,4-Trichlorobenzene	150 J	NA
1,2-Dichlorobenzene	130 J	NA
1,4-Dichlorobenzene	150U	NA
Phenol	92 J	NA
Hexavalent Chromium	3,000U	550,000U

MP-PZ-112	
1,2-Dichloroethane	5 U
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

NOTE:

(1) BASE MAP ADAPTED FROM PLATE 1, "REMEDIAL INVESTIGATION WORKPLAN" (MALCOLM PIRNIE, INC., 1998)

Analtye	NYS AWQS (ug/L)
1,2-Dichloroethane	0.6
Benzene	1
Chlorobenzene	5
Ethylbenzene	5
Toluene	5
Xylenes (total)	5
1,2,4-Trichlorobenzene	5
1,2-Dichlorobenzene	3
1,4-Dichlorobenzene	3
Phenol	1
Arsenic	25
Chromium	50
Hexavalent Chromium	50

NYS AWQS – New York State Ambient Water Quality Standards

ug/L – Micrograms per liter

LEGEND

LOCATION PREFIXES

LG – LAGOON
MP – MAIN PLANT
LF – LANDFILL
ST – ORGANICHEM PROPERTY (FORMERLY STERLING ORGANICS)

EXISTING BUILDING

FORMER BUILDING

FORMER OR EXISTING ALLEGED UNDERGROUND TANK OR PIT

C① E① O① U① D① TABLE 3-1 "REMEDIAL INVESTIGATION WORKPLAN" MALCOLM PIRNIE, INC., 1998

STORM SEWER GRATE

OVERHEAD UTILITY SUPPORTS

BARBED WIRE FENCE

CHAINLINK FENCE

MP-MW-103 LOCATION AND DESIGNATION OF MONITORING WELL (NOT SAMPLED DURING ADDITIONAL RI ACTIVITIES)

LF-PZ-5 LOCATION AND DESIGNATION OF PIEZOMETER (NOT SAMPLED DURING ADDITIONAL RI ACTIVITIES)

LG-MH-7 LOCATION AND DESIGNATION OF SEWER BEDDING GROUNDWATER SAMPLING POINT

LG-MW-1 LOCATION AND DESIGNATION OF MONITORING WELL

MP-PP-5 LOCATION AND DESIGNATION OF PERFORATED PIPE RISER

LF-PZ-5 LOCATION AND DESIGNATION OF PIEZOMETER

MP-MW-114 LOCATION AND DESIGNATION OF MONITORING WELL (LOWER AQUIFER)

MP-MW-111	Unfiltered	Unfiltered Duplicate	Filtered
1,2-Dichloroethane	100 U	NA	NA
Benzene	360	NA	NA
Chlorobenzene	3,100	NA	NA
Ethylbenzene	100 U	NA	NA
Toluene	100 U	NA	NA
Xylenes (total)	100 U	NA	NA
1,2,4-Trichlorobenzene	10 U	--	NA
1,2-Dichlorobenzene	10 J	35	NA
Phenol	21	--	NA
Arsenic	404	NA	--
Chromium	164,000	NA	--
Hexavalent Chromium	100 U	NA	NA

CONCENTRATIONS IN ug/L

U – NOT DETECTED WITH DETECTION LIMIT ABOVE NYS AWQS; DETECTION LIMIT SHOWN

J – ESTIMATED CONCENTRATION

E – EXCEEDED CALIBRATION RANGE

NA – NOT ANALYZED

-- – NOT DETECTED OR DETECTED BELOW NYS AWQS

MP-MW-3 3,500 1,2-DICHLOROETHANE CONCENTRATION IN ug/L

NS – NOT SAMPLED

ND* – 1,2-DICHLOROETHANE NOT DETECTED WITH DETECTION LIMIT GREATER THAN 10x NYS AWQS

NI – CONCENTRATION NOT INCLUDED IN CONTOURING BECAUSE WELL DOES NOT SCREEN THE FILL MATERIAL

100 ISOPLETH OF EQUAL 1,2-DICHLOROETHANE CONCENTRATION IN ug/L (DASHED WHERE INFERRED)

125' 0 125'

Title:

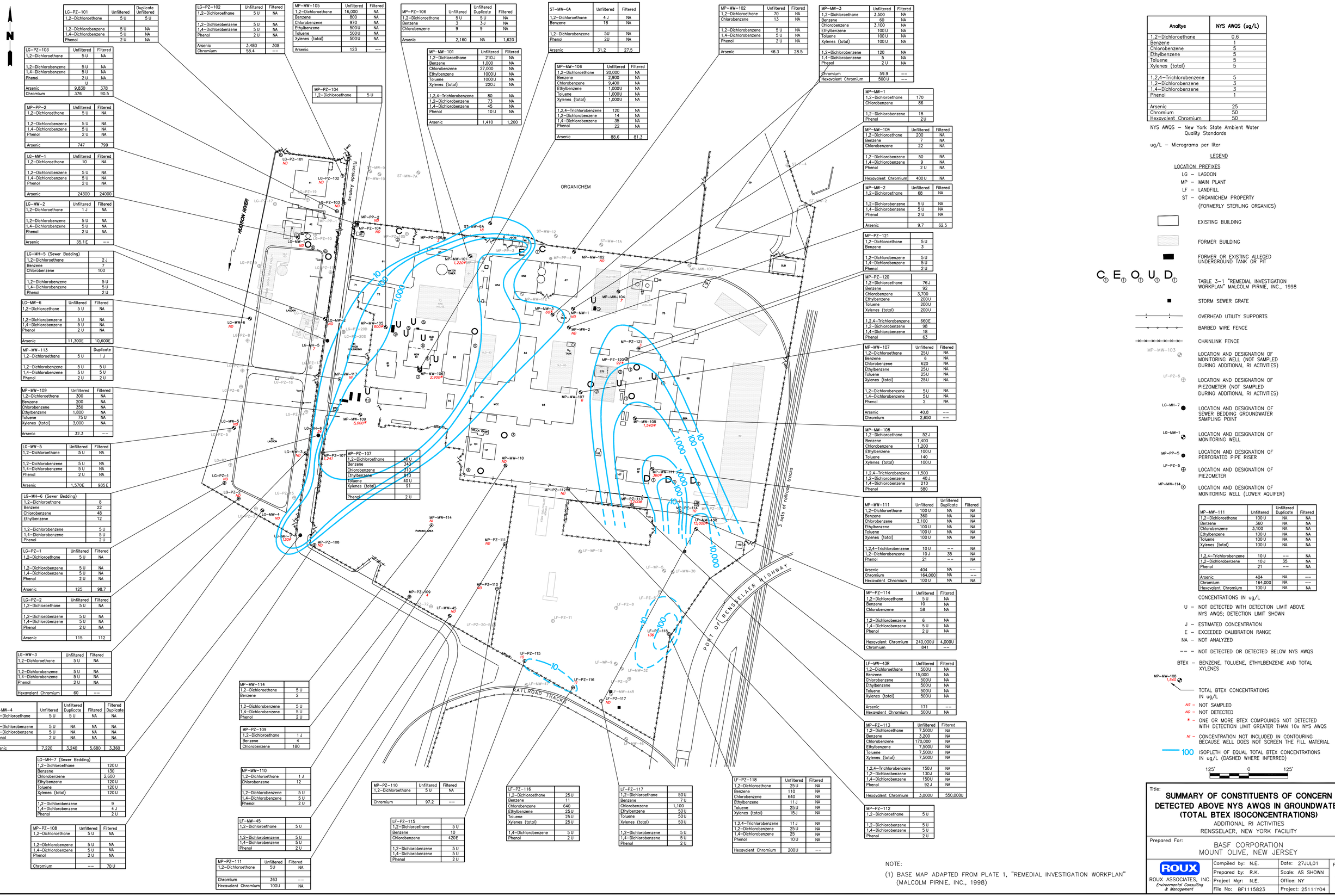
SUMMARY OF CONSTITUENTS OF CONCERN DETECTED ABOVE NYS AWQS IN GROUNDWATER (1,2-DICHLOROETHANE ISOCONCENTRATIONS)

ADDITIONAL RI ACTIVITIES
RENSSELAER, NEW YORK FACILITY

Prepared For:
BASF CORPORATION
MOUNT OLIVE, NEW JERSEY

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: N.E.	Date: 27JUL01	PLATE
Prepared by: R.K.	Scale: AS SHOWN	7B
Project Mgr: N.E.	Office: NY	
File No: BF1115822	Project: 25111Y04	



LG-PZ-101	Unfiltered	Duplicate Unfiltered
1,2-Dichloroethane	5 U	5 U
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA

LG-PZ-102	Unfiltered	Filtered
1,2-Dichloroethane	5 U	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Arsenic	3,480	308
Chromium	58.4	--

MP-MW-105	Unfiltered	Filtered
1,2-Dichloroethane	16,000	NA
Benzene	800	NA
Chlorobenzene	970	NA
Ethylbenzene	500U	NA
Toluene	500U	NA
Xylenes (total)	500U	NA
Arsenic	123	--

MP-PZ-106	Unfiltered	Unfiltered Duplicate	Filtered
1,2-Dichloroethane	5 U	5 U	NA
Benzene	3	3 J	NA
Chlorobenzene	9	9	NA
Arsenic	2,160	NA	1,620

ST-MW-6A	Unfiltered	Filtered
1,2-Dichloroethane	4 J	NA
Benzene	18	NA
1,2-Dichlorobenzene	5U	NA
Phenol	2U	NA
Arsenic	31.2	27.5

MP-MW-102	Unfiltered	Filtered
1,2-Dichloroethane	70	NA
Chlorobenzene	13	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Arsenic	46.3	28.5

MP-MW-3	Unfiltered	Filtered
1,2-Dichloroethane	3,500	NA
Benzene	60	NA
Chlorobenzene	3,100	NA
Ethylbenzene	100 U	NA
Toluene	100 U	NA
Xylenes (total)	100 U	NA
1,2-Dichlorobenzene	120	NA
1,4-Dichlorobenzene	5	NA
Phepol	2 U	NA
Chromium	59.9	--
Hexavalent Chromium	500 U	--

MP-PZ-103	Unfiltered	Filtered
1,2-Dichloroethane	5 U	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
	U	
Arsenic	9,830	378
Chromium	376	90.5

MP-PZ-104	
1,2-Dichloroethane	5 U

MP-MW-101	Unfiltered	Filtered
1,2-Dichloroethane	210 J	NA
Benzene	1,000	NA
Chlorobenzene	27,000	NA
Ethylbenzene	1000 U	NA
Toluene	1000 U	NA
Xylenes (total)	220 J	NA
1,2,4-Trichlorobenzene	80	NA
1,2-Dichlorobenzene	73	NA
1,4-Dichlorobenzene	45	NA
Phenol	10 U	NA
Arsenic	1,410	1,200

MP-MW-106	Unfiltered	Filtered
1,2-Dichloroethane	20,000	NA
Benzene	2,900	NA
Chlorobenzene	9,400	NA
Ethylbenzene	1,000U	NA
Toluene	1,000U	NA
Xylenes (total)	1,000U	NA
1,2,4-Trichlorobenzene	120	NA
1,2-Dichlorobenzene	14	NA
1,4-Dichlorobenzene	35	NA
Phenol	22	NA
Arsenic	88.6	81.3

MP-MW-1	
1,2-Dichloroethane	170
Chlorobenzene	86
1,2-Dichlorobenzene	18
Phenol	2 U

MP-MW-104	Unfiltered	Filtered
1,2-Dichloroethane	200	NA
Benzene	7	NA
Chlorobenzene	22	NA
1,2-Dichlorobenzene	50	NA
1,4-Dichlorobenzene	9	NA
Phenol	2 U	NA
Hexavalent Chromium	400 U	NA

MP-MW-2	Unfiltered	Filtered
1,2-Dichloroethane	68	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Arsenic	9.7	62.5

MP-PZ-121	
1,2-Dichloroethane	5 U
Benzene	3
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

MP-PZ-120	
1,2-Dichloroethane	76 J
Benzene	92
Chlorobenzene	3,700
Ethylbenzene	200U
Toluene	200U
Xylenes (total)	200U
1,2,4-Trichlorobenzene	660E
1,2-Dichlorobenzene	98
1,4-Dichlorobenzene	18
Phenol	63

MP-MW-107	Unfiltered	Filtered
1,2-Dichloroethane	25U	NA
Benzene	6	NA
Chlorobenzene	620	NA
Ethylbenzene	25U	NA
Toluene	25U	NA
Xylenes (total)	25U	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2	NA
Arsenic	40.8	--
Chromium	2,650	--

MP-MW-108	
1,2-Dichloroethane	52 J
Benzene	1,400
Chlorobenzene	1,200
Ethylbenzene	100 U
Toluene	140
Xylenes (total)	100 U
1,2,4-Trichlorobenzene	1,500
1,2-Dichlorobenzene	40 J
1,4-Dichlorobenzene	210
Phenol	580

MP-MW-111	Unfiltered	Unfiltered Duplicate	Filtered
1,2-Dichloroethane	100 U	NA	NA
Benzene	360	NA	NA
Chlorobenzene	3,100	NA	NA
Ethylbenzene	100 U	NA	NA
Toluene	100 U	NA	NA
Xylenes (total)	100 U	NA	NA
1,2,4-Trichlorobenzene	10 U	--	NA
1,2-Dichlorobenzene	10 J	35	NA
Phenol	21	--	NA
Arsenic	404	NA	--
Chromium	164,000	NA	--
Hexavalent Chromium	100 U	NA	NA

MP-PZ-114	Unfiltered	Filtered
1,2-Dichloroethane	5 U	NA
Benzene	10	NA
Chlorobenzene	58	NA
1,2-Dichlorobenzene	6	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Hexavalent Chromium	240,000U	4,000U
Chromium	841	--

LF-MW-43R	Unfiltered	Filtered
1,2-Dichloroethane	500U	NA
Benzene	15,000	NA
Chlorobenzene	500U	NA
Ethylbenzene	500U	NA
Toluene	500U	NA
Xylenes (total)	500U	NA
Arsenic	171	--
Hexavalent Chromium	500U	NA

MP-PZ-113	Unfiltered	Filtered
1,2-Dichloroethane	7,500U	NA
Benzene	3,200	NA
Chlorobenzene	170,000	NA
Ethylbenzene	7,500U	NA
Toluene	7,500U	NA
Xylenes (total)	7,500U	NA
1,2,4-Trichlorobenzene	150J	NA
1,2-Dichlorobenzene	130J	NA
1,4-Dichlorobenzene	150U	NA
Phenol	92J	NA
Hexavalent Chromium	3,000U	550,000U

MP-PZ-112	
1,2-Dichloroethane	5 U
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

LG-PZ-103	Unfiltered	Filtered
1,2-Dichloroethane	5 U	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Arsenic	747	799

LG-MW-1	Unfiltered	Filtered
1,2-Dichloroethane	10	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Arsenic	24300	24000

LG-MW-2	Unfiltered	Filtered
1,2-Dichloroethane	1 J	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Arsenic	35.1 E	--

LG-MH-5 (Sewer Bedding)	
1,2-Dichloroethane	2 J
Benzene	7
Chlorobenzene	100
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

LG-MW-6	Unfiltered	Filtered
1,2-Dichloroethane	5 U	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Arsenic	11,300E	10,600E

MP-MW-113		Duplicate
1,2-Dichloroethane	5 U	1 J
1,2-Dichlorobenzene	5 U	5 U
1,4-Dichlorobenzene	5 U	5 U
Phenol	2 U	2 U

MP-MW-109	Unfiltered	Filtered
1,2-Dichloroethane	300	NA
Benzene	200	NA
Chlorobenzene	350	NA
Ethylbenzene	1,800	NA
Toluene	75 U	NA
Xylenes (total)	3,000	NA
Arsenic	32.3	--

LG-MW-5	Unfiltered	Filtered
1,2-Dichloroethane	5 U	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Arsenic	1,570E	985 E

MP-PZ-107	
1,2-Dichloroethane	40 U
Benzene	340
Chlorobenzene	510
Ethylbenzene	970
Toluene	40 U
Xylenes (total)	91
Phenol	2 U

LG-MH-6 (Sewer Bedding)	
1,2-Dichloroethane	8
Benzene	22
Chlorobenzene	48
Ethylbenzene	12
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

LG-PZ-1	Unfiltered	Filtered
1,2-Dichloroethane	5 U	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Arsenic	125	98.7

LG-PZ-2	Unfiltered	Filtered
1,2-Dichloroethane	5 U	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Arsenic	115	112

LG-MW-3	Unfiltered	Filtered
1,2-Dichloroethane	5 U	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Hexavalent Chromium	60	--

LG-MW-4	Unfiltered	Unfiltered Duplicate	Filtered	Filtered Duplicate
1,2-Dichloroethane	5 U	5 U	NA	NA
1,2-Dichlorobenzene	5 U	NA	NA	NA
1,4-Dichlorobenzene	5 U	NA	NA	NA
Phenol	2 U	NA	NA	NA
Arsenic	7,220	3,240	5,680	3,360

LG-MH-7 (Sewer Bedding)	
1,2-Dichloroethane	120 U
Benzene	130
Chlorobenzene	2,600
Ethylbenzene	120 U
Toluene	120 U
Xylenes (total)	120 U
1,2-Dichlorobenzene	9
1,4-Dichlorobenzene	4 J
Phenol	2 U

MP-PZ-108	Unfiltered	Filtered
1,2-Dichloroethane	5 U	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Chromium	--	70 U

MP-MW-114	
1,2-Dichloroethane	5 U
Benzene	2
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

MP-PZ-109	
1,2-Dichloroethane	1 J
Benzene	4
Chlorobenzene	180

MP-MW-110	
1,2-Dichloroethane	1 J
Chlorobenzene	12
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

LF-MW-45	
1,2-Dichloroethane	5 U
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

MP-PZ-111	Unfiltered	Filtered
1,2-Dichloroethane	5U	NA
Chromium	363	--
Hexavalent Chromium	100U	NA

MP-PZ-110	Unfiltered	Filtered
1,2-Dichloroethane	5 U	NA
Chromium	97.2	--

LF-PZ-115	
1,2-Dichloroethane	5 U
Benzene	10
Chlorobenzene	420E
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

LF-PZ-116	
1,2-Dichloroethane	25 U
Benzene	11
Chlorobenzene	640
Ethylbenzene	25 U
Toluene	25 U
Xylenes (total)	25 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

LF-PZ-117	
1,2-Dichloroethane	50 U
Benzene	7 U
Chlorobenzene	1,100
Ethylbenzene	50 U
Toluene	50 U
Xylenes (total)	50 U
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

LF-PZ-118	Unfiltered	Filtered
1,2-Dichloroethane	25 U	NA
Benzene	110	NA
Chlorobenzene	640	NA
Ethylbenzene	11 J	NA
Toluene	25 U	NA
Xylenes (total)	15 J	NA
1,2,4-Trichlorobenzene	11 J	NA
1,2-Dichlorobenzene	25 U	NA
1,4-Dichlorobenzene	25	NA
Phenol	10 U	NA
Hexavalent Chromium	200U	--

Analtye	NYS AWQS (ug/L)
1,2-Dichloroethane	0.6
Benzene	1
Chlorobenzene	5
Ethylbenzene	5
Toluene	5
Xylenes (total)	5
1,2,4-Trichlorobenzene	5
1,2-Dichlorobenzene	3
1,4-Dichlorobenzene	3
Phenol	1
Arsenic	25
Chromium	50
Hexavalent Chromium	50

NYS AWQS – New York State Ambient Water Quality Standards

ug/L – Micrograms per liter

LEGEND

LOCATION PREFIXES

LG – LAGOON
MP – MAIN PLANT
LF – LANDFILL
ST – ORGANICHEM PROPERTY (FORMERLY STERLING ORGANICS)

EXISTING BUILDING

FORMER BUILDING

FORMER OR EXISTING ALLEGED UNDERGROUND TANK OR PIT

C① E① O① U① D① TABLE 3-1 "REMEDIAL INVESTIGATION WORKPLAN" MALCOLM PIRNIE, INC., 1998

STORM SEWER GRATE

OVERHEAD UTILITY SUPPORTS

BARBED WIRE FENCE

CHAINLINK FENCE

MP-MW-103 LOCATION AND DESIGNATION OF MONITORING WELL (NOT SAMPLED DURING ADDITIONAL RI ACTIVITIES)

LF-PZ-5 LOCATION AND DESIGNATION OF PIEZOMETER (NOT SAMPLED DURING ADDITIONAL RI ACTIVITIES)

LG-MH-7 LOCATION AND DESIGNATION OF SEWER BEDDING GROUNDWATER SAMPLING POINT

LG-MW-1 LOCATION AND DESIGNATION OF MONITORING WELL

MP-PP-5 LOCATION AND DESIGNATION OF PERFORATED PIPE RISER

LF-PZ-5 LOCATION AND DESIGNATION OF PIEZOMETER

MP-MW-114 LOCATION AND DESIGNATION OF MONITORING WELL (LOWER AQUIFER)

MP-MW-111	Unfiltered	Unfiltered Duplicate	Filtered
1,2-Dichloroethane	100 U	NA	NA
Benzene	360	NA	NA
Chlorobenzene	3,100	NA	NA
Ethylbenzene	100 U	NA	NA
Toluene	100 U	NA	NA
Xylenes (total)	100 U	NA	NA
1,2,4-Trichlorobenzene	10 U	--	NA
1,2-Dichlorobenzene	10 J	35	NA
Phenol	21	--	NA
Arsenic	404	NA	--
Chromium	164,000	NA	--
Hexavalent Chromium	100 U	NA	NA

CONCENTRATIONS IN ug/L

U – NOT DETECTED WITH DETECTION LIMIT ABOVE NYS AWQS; DETECTION LIMIT SHOWN

J – ESTIMATED CONCENTRATION

E – EXCEEDED CALIBRATION RANGE

NA – NOT ANALYZED

-- – NOT DETECTED OR DETECTED BELOW NYS AWQS

BTEX – BENZENE, TOLUENE, ETHYLBENZENE AND TOTAL XYLENES

MP-MW-108 1,540 TOTAL BTEX CONCENTRATIONS IN ug/L

NS – NOT SAMPLED

ND – NOT DETECTED

* – ONE OR MORE BTEX COMPOUNDS NOT DETECTED WITH DETECTION LIMIT GREATER THAN 10x NYS AWQS

NI – CONCENTRATION NOT INCLUDED IN CONTOURING BECAUSE WELL DOES NOT SCREEN THE FILL MATERIAL

100 ISOPLETH OF EQUAL TOTAL BTEX CONCENTRATIONS IN ug/L (DASHED WHERE INFERRED)

125' 0 125'

NOTE:

(1) BASE MAP ADAPTED FROM PLATE 1, "REMEDIAL INVESTIGATION WORKPLAN" (MALCOLM PIRNIE, INC., 1998)

Title:

SUMMARY OF CONSTITUENTS OF CONCERN DETECTED ABOVE NYS AWQS IN GROUNDWATER (TOTAL BTEX ISOCONCENTRATIONS)

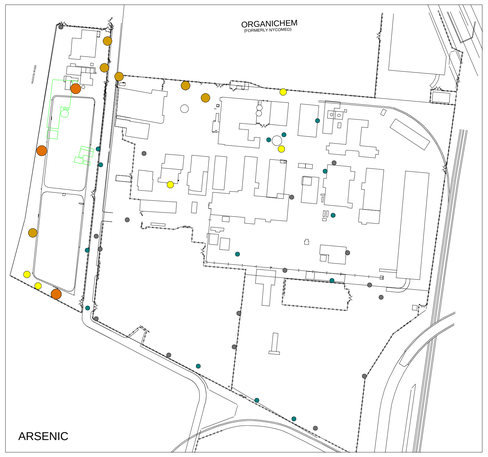
ADDITIONAL RI ACTIVITIES
RENSSELAER, NEW YORK FACILITY

Prepared For:
BASF CORPORATION
MOUNT OLIVE, NEW JERSEY

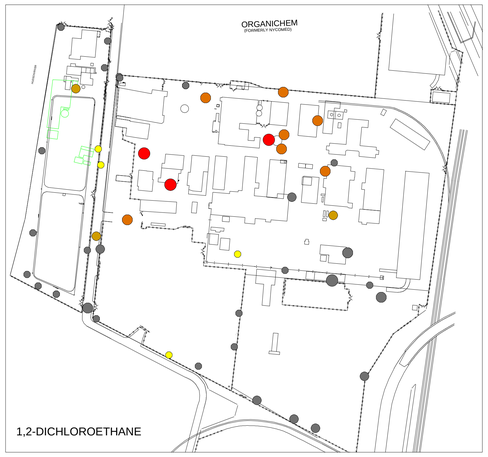
ROUX ASSOCIATES, INC.
Environmental Consulting & Management

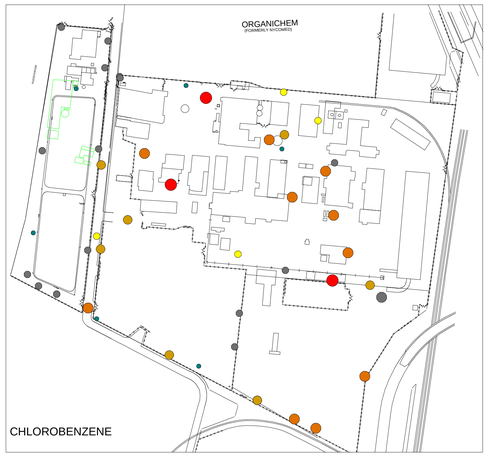
Compiled by: N.E.	Date: 27JUL01	PLATE
Prepared by: R.K.	Scale: AS SHOWN	7C
Project Mgr: N.E.	Office: NY	
File No: BF1115823	Project: 25111Y04	

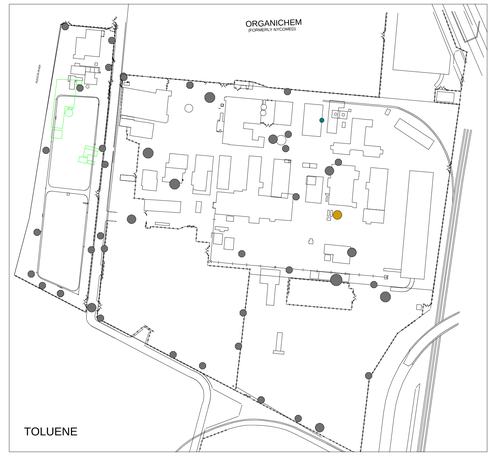
METALS

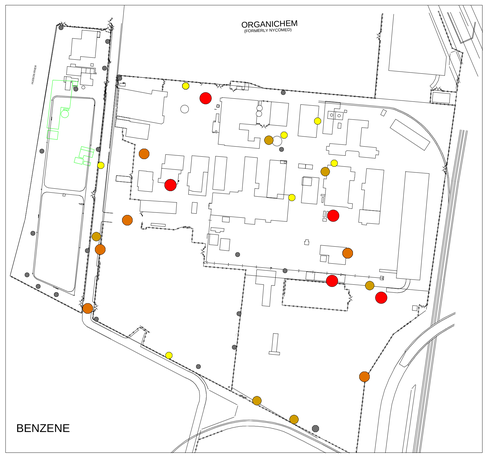


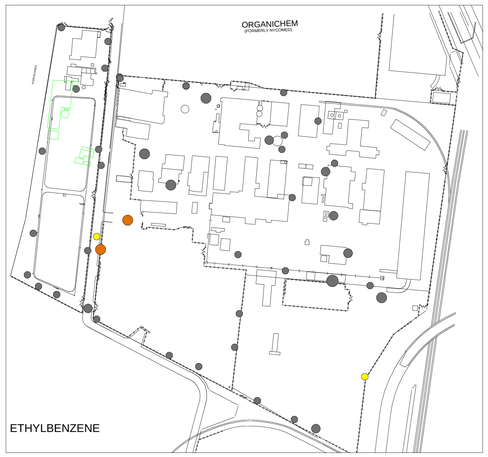
VOCs

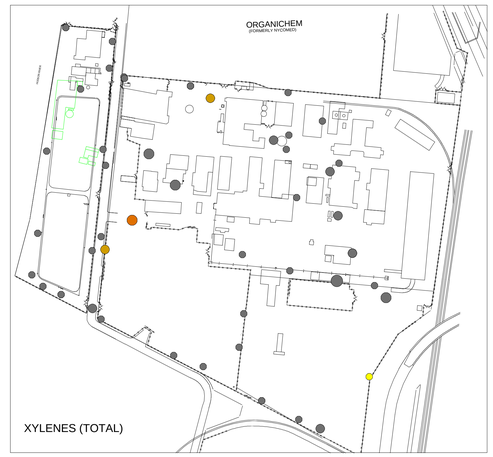




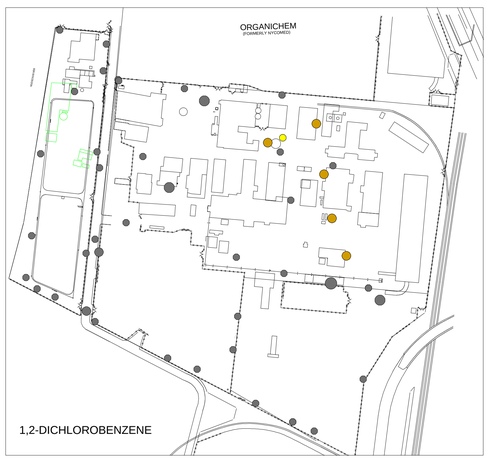


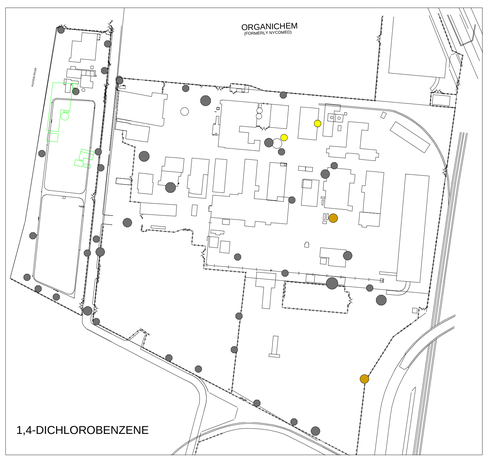


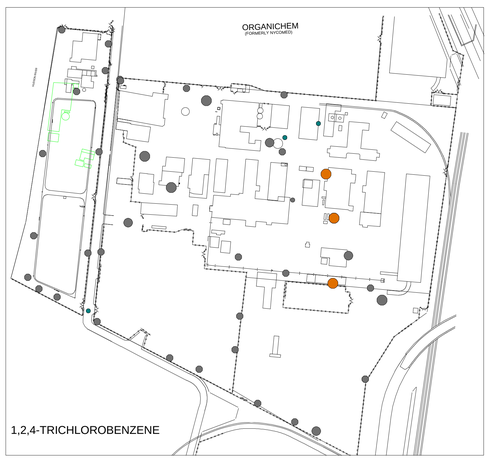


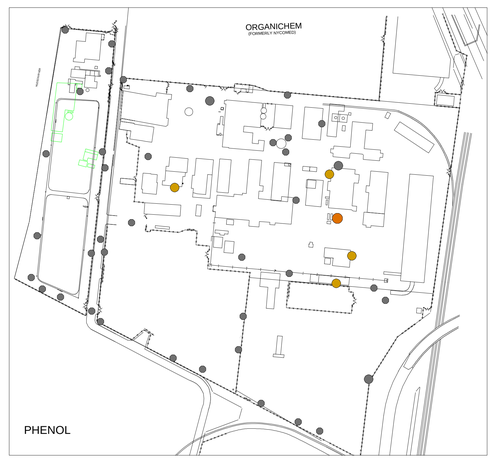


SVOCs









GROUNDWATER CONCENTRATIONS RELATIVE TO NYS AWQS

- GREATER THAN 1,000 TIMES NYS AWQS
- 100 TO LESS THAN 1,000 TIMES NYS AWQS
- 10 TO LESS THAN 100 TIMES NYS AWQS
- 1 TO LESS THAN THAN 10 TIMES NYS AWQS
- LESS THAN NYS AWQS
- NOT DETECTED AT CONCENTRATIONS GREATER THAN 1,000 TIMES NYS AWQS
- NOT DETECTED AT CONCENTRATIONS 100 TO LESS THAN 1,000 TIMES NYS AWQS
- NOT DETECTED AT CONCENTRATIONS 10 TO LESS THAN 100 TIMES NYS AWQS
- NOT DETECTED AT CONCENTRATIONS 1 TO LESS THAN THAN 10 TIMES NYS AWQS
- NOT DETECTED AT CONCENTRATIONS LESS THAN NYS AWQS

N

NOTES

1. NYSDEC AWQS : NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION AMBIENT WATER QUALITY STANDARD
2. CONCENTRATIONS OF METALS ARE FROM FILTERED SAMPLES

Title: **CONSTITUENTS OF CONCERN DETECTED IN GROUNDWATER RELATIVE TO NYSDEC AWQS**

ADDITIONAL RI ACTIVITIES
RENSSELAER, NEW YORK FACILITY

Prepared For:
BASF CORPORATION
MOUNT OLIVE, NEW JERSEY

ROUX ASSOCIATES INC
Environmental Consulting & Management

Compiled by: S.S.	Date: 8/02/01
Prepared by: S.S.	Scale: 1" = 250'
Project Mgr: N.E.	Office: NY
File No: BF1115808	Project: 25111Y04

PLATE 8

LG-RSS-5	
1,2-Dichloroethane	5 U
Benzene	6
Chlorobenzene	40
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

LG-RSS-6	
1,2-Dichloroethane	5 U
Benzene	7
Chlorobenzene	44
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

LG-GSS-1	
1,2-Dichloroethane	5 U
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

LG-RST-1	
1,2-Dichloroethane	5 U
Benzene	2
Chlorobenzene	47
1,2-Dichlorobenzene	9
1,4-Dichlorobenzene	5 U
Phenol	2 U

LG-RSS-7	
1,2-Dichloroethane	5 U
Benzene	7
Chlorobenzene	46
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	6 U
Phenol	2 U

LF-RST-3	Unfiltered	Filtered
1,2-Dichloroethane	5 U	NA
Chlorobenzene	6	NA
1,2-Dichlorobenzene	5 U	NA
1,4-Dichlorobenzene	5 U	NA
Phenol	2 U	NA
Arsenic	171	33.3

LF-RST-1	
1,2-Dichloroethane	5 U
Benzene	58
Chlorobenzene	49
Xylenes (total)	14
1,2-Dichlorobenzene	50
Phenol	2 U

LF-RST-2	
1,2-Dichloroethane	5 U
Benzene	17
Chlorobenzene	22
1,2-Dichlorobenzene	18
Phenol	2 U

LF-RSS-4	
1,2-Dichloroethane	5 U
Benzene	2
1,2-Dichlorobenzene	5 U
Phenol	2 U

LF-RSS-2	
1,2-Dichloroethane	5 U
Benzene	2
1,2-Dichlorobenzene	5 U
1,4-Dichlorobenzene	5 U
Phenol	2 U

Analtye	NYS AWQS (ug/L)
1,2-Dichloroethane	0.6
Benzene	1
Chlorobenzene	5
Ethylbenzene	5
Toluene	5
Xylenes (total)	5
1,2,4-Trichlorobenzene	5
1,2-Dichlorobenzene	3
1,4-Dichlorobenzene	3
Phenol	1
Arsenic	25

NYS AWQS – NEW YORK STATE AMBIENT WATER QUALITY STANDARDS
ug/L – MICROGRAMS PER LITER

LEGEND

LOCATION PREFIXES
LG – LAGOON
MP – MAIN PLANT
LF – LANDFILL
ST – ORGANICHEM PROPERTY (FORMERLY STERLING ORGANIC PROPERTY)
GSS – TOWN OF EAST GREENBUSH SANITARY SEWER
RST – CITY OF RENSSELAER STORM SEWER
RSS – CITY OF RENSSELAER SANITARY SEWER

- EXISTING BUILDING
- FORMER BUILDING
- FORMER OR EXISTING ALLEGED UNDERGROUND TANK OR PIT
- C① E① O① U① D① — DESIGNATES POTENTIAL AREA OF INTEREST, TABLE 3-1 "REMEDIAL INVESTIGATION WORKPLAN" MALCOM PIRNIE, INC., 1998
- STORM SEWER GRATE
- OVERHEAD UTILITY SUPPORTS
- BARBED WIRE FENCE
- CHAINLINK FENCE
- RCP — REINFORCED CONCRETE PIPE
- DIP — DUCTILE IRON PIPE
- PLANT SANITARY SEWER (DASHED WHERE REPLACED) (ARROWS INDICATE DIRECTION OF FLOW)
- CITY OF RENSSELAER STORM SEWER (ARROWS INDICATE DIRECTION OF FLOW)
- CITY OF RENSSELAER SANITARY SEWER (ARROWS INDICATE DIRECTION OF FLOW)
- TOWN OF EAST GREENBUSH STORM SEWER (ARROWS INDICATE DIRECTION OF FLOW)
- COUNTY OF RENSSELAER SEWER (ASSUMED SANITARY)
- LF-RSS-4 — LOCATION AND DESIGNATION OF SEWER SAMPLING POINT.

Sampling Point Designation

LF-RSS-2	
1,2-Dichloroethane	5 U
Benzene	2
1,2-Dichlorobenzene	5 U
Phenol	2 U

U – NOT DETECTED; DETECTION LIMIT SHOWN
NA – NOT ANALYZED

NOTES:
1. BASE MAP ADAPTED FROM PLATE 1, "REMEDIAL INVESTIGATION WORKPLAN" (MALCOLM PIRNIE, INC., 1998)
2. SEWERS ADAPTED FROM THE FOLLOWING SOURCES:
   SHEET 210: "SEWERS, SANITARY & PARTIAL STORM" (BASF, 1993)
   SHEETS 1 & 2: "SITE OPERATIONS" (MALCOM PIRNIE, INC., 1998)
3. ONLY CONSTITUENTS OF CONCERN IDENTIFIED ABOVE WITH DETECTIONS OR DETECTION LIMITS THAT EXCEED NYS AWQS ARE SUMMARIZED ON THIS PLATE

100' 0 100'

Title:

SUMMARY OF CONSTITUENTS OF CONCERN DETECTED ABOVE NYS AWQS IN SEWER WATER

ADDITIONAL RI ACTIVITIES
RENSSELAER, NEW YORK FACILITY

Prepared For:
BASF CORPORATION
MOUNT OLIVE, NEW JERSEY

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: M.R.	Date: 27JUL01	PLATE	
Prepared by: R.K.	Scale: AS SHOWN		
Project Mgr: N.E.	Office: NY		
File No: BF1115827	Project: 25111Y04		9

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